# AN ESSAY ON ECONOMIC THEORY

## AN ENGLISH TRANSLATION OF RICHARD CANTILLON'S *ESSAI SUR LA NATURE DU COMMERCE EN GÉNÉRAL*

TRANSLATED BY CHANTAL SAUCIER
EDITED BY MARK THORNTON

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ISBN: 978-1-61016-001-8

# Foreword

Robert F. Hébert

FOLLOWING A CENTURY of neglect, William Stanley Jevons, in the first blush of discovery, proclaimed Cantillon's *Essai*, "the cradle of political economy." Subsequent growth and development of economic thought has not really alerted us to the subtleties of this succinct appraisal. A cradle holds new life; and there can be little doubt that the *Essai* added new life to the organizing principles of economics. But "political economy" does not accurately describe the subject Cantillon addressed. Indeed, he scrupulously avoided political issues in order to concentrate on the mechanics of eighteenth-century economic life. When confronted by "extraneous" factors, such as politics, Cantillon insisted that such considerations be put aside, "so as not to complicate our subject," he said, thus invoking a kind of *ceteris paribus* assumption before it became fashionable in economics to do so.

This is merely one way in which Cantillon was ahead of his time. He preceded Adam Smith by a generation. Both writers made important foundational contributions to economics, but from perspectives that were quite different. Smith was a philosopher and educator. His approach to economics reflected the concerns and approaches of philosophic inquiry stretching back to Thomas Hobbes. The Hobbesian dilemma was how to secure peace and prosperity without submitting to an all-powerful central government. Smith gave an answer based on the nature and function of an exchange economy operating under a rule of law. *The Wealth of Nations* is full of useful advice to those who hold political power. Hence, Smith earned his sobriquet "father of political economy."

Cantillon was a businessman and banker. His approach to economics reflected the concerns of practical men who set about making a living, and his analysis concentrated on the structure and mechanics of an emerging market economy. The economy he described was an *enterprise*

economy, not a political one, in which certain individuals played key roles, some passive and some active. Government, as we know it, was relatively passive in Cantillon's economy. The most active and central participant was the entrepreneur, who motivates the entire economic system. Unlike any previous writer, Cantillon explicated the vital role of the entrepreneur with perception and vigor. Hence, he deserves to be called "the father of enterprise economics."

These considerations alone would justify renewed interest in Cantillon and his work, but there have always been impediments to overcome. We know little of Cantillon's life and the circumstances of his authorship. The manuscript that was eventually published in 1755 circulated privately in France for almost two decades before; when published, it appeared under mysterious circumstances. The designated publisher, Fletcher Gyles, never existed at the address given; and despite the phrase "traduit de l'Anglois" on the title page, no English original was ever found. Moreover, a statistical supplement to the *Essai* has gone missing, and has never been discovered. In the 1970s a Japanese scholar unearthed a French manuscript at the municipal library in Rouen bearing the title, "Essay De la Nature Du Commerce en Général," which encouraged speculation that the first word may have been carelessly transcribed from an English original, still undiscovered. All of this has given economic detectives much to sift through and explain. But the one steadfast realization throughout has been the power of Cantillon's analysis.

Mark Thornton and Chantal Saucier have accomplished the arduous task of bringing forth a new and improved translation of Cantillon's famous work. Heretofore the only English translation of the *Essai* available has been the 1931 edition produced by Henry Higgs for the Royal Economic Society. Though competent, it has become less serviceable over time, as more and more of its shortcomings devolved (not the least of which is the antiquated use of "undertaker" in place of "entrepreneur"). Saucier provides a more accurate and lucid account, better suited to the 21st century. Thornton's hand shows not only in competent guidance of the translator but in the inclusion of numerous explanatory footnotes that add historical context.

Age has dimmed my memory of the exact hour and day, but when I was much younger I presented a paper on Cantillon to a small group of economists gathered in Keynes Hall at Cambridge University. Afterward

I was approached by a proper English gentleman who wished to discuss further the merits of Cantillon's work. During the ensuing conversation I mentioned my belief that a new translation of the *Essai* was warranted. My listener enthusiastically agreed. At some point it dawned on me that he had not mentioned his name. So I asked. "Shackle," he replied. I was momentarily stunned. G. L. S. Shackle (1903-1992) was Britain's leading intellect on the themes that are central to Cantillon's analysis, namely imagination and uncertainty. If he were alive today, I'm sure Shackle would welcome this new translation, alongside the rest of us who have an abiding interest in Cantillon and his ideas.

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## Part Two: Money and Interest

## Part Three: International Trade and Business Cycles

# Introduction

*Essai sur la Nature du Commerce en Général* should be rightfully considered one of the most important books ever written. It is the first statement of economic theory and not just a single or limited breakthrough, but a comprehensive treatment that explains the organization of commercial society. Prior to Cantillon, writings about the economy were largely driven by considerations of religion, ideology, and interests groups. After Cantillon, there was a scientific model that could be understood and applied. Most importantly, when it was properly understood and applied, it unleashed the market economy and generated great prosperity.

Early in his career, Cantillon worked for a war profiteer in the British government and later for John Law in the Mississippi Company scheme. His first job enabled him to establish a bank in Paris from which he grew rich. Cantillon made a fortune on the value of his shares in the company during the Mississippi Bubble. Subsequently he made more money by selling shares short during the bust and by taking advantage of changes in exchange rates that he correctly anticipated. After the Bubble, he was one of the wealthiest private individuals in the world.

Not unlike the modern day financial scandals, Cantillon was hounded by lawsuits and criminal charges, so much so that his biographer, Antoin Murphy, suggests that rather than being murdered in 1734, Cantillon actually faked his death and made off with his money to South America.

Based on the book itself and other evidence, we are now reasonably confident that Cantillon completed the manuscript in 1730. It could never have been published under the harsh French censorship laws that prevailed throughout the first half of the 18th century and, as a result, it only circulated privately in hand-copied manuscripts. Only after the censorship

laws were relaxed was it published in 1755, and even then, it was published anonymously under the name of a defunct foreign publisher.

Least you think the *Essai* is a dry technical practitioner's guide to the economy, it should be stressed that Cantillon deals with a wide variety of fundamental and philosophical issues such as the nature of property, the distribution of income, the origin of money, and the role of government. He even criticized an early version of the Malthusian Population theory and offered an accurate prediction of the population of the United States in the 19th century.

Cantillon's circle of friends and acquaintances reads like a who's who of the early 18th century intellectuals. His good friend was Lord Bolingbroke, a former Prime Minister of England and a leader of the Jacobite cause. Cantillon met many of the leading intellectuals of the day through Bolingbroke, such as Montesquieu and Voltaire in France and probably Jonathan Swift and Alexander Pope in connection with Bolingbroke's political activities in England. There is evidence to suggest that, in addition to the infamous John Law, Cantillon also knew and was critical of the economist Charles Davenant and Sir Isaac Newton, who was the director of the Royal Mint.

Cantillon opposed the ruling elite and was friendly with opposition leaders in both of the two great warring powers, England and France. He provided the theoretical superstructure that justified the opposition agenda against big government and showed how taxes, regulations, war, and a large national debt impoverish the people.

Cantillon began his challenge to accepted doctrine on page one when he showed that money was just a medium of exchange and that wealth was not money, but the ability to consume. He demonstrated that the best way to produce consumer goods was to allow free markets where entrepreneurs could be counted on to make self-interested judgments on what would best please their consumers.

Cantillon's model of the isolated estate is a conceptual analysis of the emergence of the market economy from feudalism. It is the inspiration for Adam Smith's invisible hand because it demonstrates that entrepreneurial self-interest will regulate the economy of the isolated estate just as well or better than if the estate owner continued to make all the decisions.

The influence of Cantillon's manuscript was largely unknown and the book had fallen so far into neglect that William Stanley Jevons was said to have "rediscovered" it in the late 19th century. However, we now know that it had a tremendous influence on the development of economics. In addition to Adam Smith, it has now been shown that fellow Scotsman David Hume read the manuscript in some form before publishing his own path-breaking contributions to economics. In France, Mirabeau had a copy for many years and used it as the basis of his many popular works on economics. The publication of the *Essai* played a pivotal role in the formation of the Physiocrat School of economics in the late 1750s. We also know that it was very influential on the economic thought of Turgot, Condillac, and Jean-Baptiste Say, and subsequently on the French Liberal School that followed. We can also now say that Cantillon was an important influence on Carl Menger, Ludwig von Mises, and Noble Laureate F. A. Hayek, of the Austrian School of economics, and that he provided the "Cantillon Effects," which are central to the Austrian theory of the business cycle.

Cantillon's contributions span the entire gamut of economics including entrepreneurship, methodology, theory, microeconomics, macroeconomics, international trade and finance, economic policy, and even areas such as population theory, economic geography, and transport economics. If you want to know the scientific "magic" of the market, here is the man who literally wrote the book.

The case for the book is compelling and so is the case for a new English translation. First, the *Essai* presents material that is brilliant, but difficult. Even the original French manuscript must have appeared incredibly complex to his early readers, a point noted by Cantillon himself in the text. After all, this was a new science that was fully born in one long stroke of his pen. Remember further that Cantillon died shortly after writing the book and that it was not published until long after his personal associates had died, so there was no one to clarify matters.

Second, the English translation by Henry Higgs is a faithful interpretation, but one that is wholly out of date and which provides little guidance for the reader. In the introduction to the first English edition of the *Essai sur la Nature du Commerce en Général*, published in 1931, Henry Higgs states that his translation "follows the French text of 1755 with all faults of grammar, spelling, accent and punctuation." Higgs chose faithfulness over beauty, sometimes perhaps to the detriment of readability.

Throughout history, translators have wrestled with the same question or dilemma: balancing faithfulness with beauty. Much as with English, the French language has changed tremendously since the early 18th century, when Cantillon wrote the *Essai*. A faithful translation, therefore, renders the text in a language that is no longer in use. Our goal differs from that of Higgs in that we want Cantillon's book to be accessible to the modern reader. Higgs' translation can only be roughly understood, and in some important instances, is in error.

We remedy these shortfalls in a variety of ways. First, we modernized the text, especially but not limited to capitalization, punctuation, and sentence structure. Second, we have changed the 20th century British translation to reflect terminology of more modern times and we believe that this also provides value and clarity. For example, Higgs translated "intendans ou inspecteurs"—which means administrators or supervisors—into "stewards and bailiffs," leaving the modern American thinking about airplanes and courtrooms. He also translated "habillement" as "rayment" instead of clothing. In some cases, we restore the text closer to the original French version. An important example of this restoration is Higgs' translation of the word "entrepreneur"—which plays a central role in Cantillon's model of the economy—into "undertaker."

Third, we provide explanatory footnotes that describe the people, places, events, weights, measures and currency values that Cantillon used, and which are no longer commonly understood, as well as descriptions and rationales for any substantive changes from the Higgs translation. Fourth, we provide abstracts for chapters and provide titles for the sections. We also provide graphic illustrations for some of Cantillon's important contributions, such as the circular-flow diagram of the economy, in order to aid comprehension. We liken the process to restoring a painting or fine piece of furniture—not changing the original—just cleaning it, fixing a few scratches, and putting on a new coat of varnish. This new translation, we hope, will appeal to new readers and seasoned economists alike and give Cantillon's *Essai* the attention that it well deserves.

The task of retranslating the *Essai* sounded like a simple and straightforward project for which we completely underestimated the time and difficulty involved. It has taken several years and unknown hours of work to complete, and we fully acknowledge that it could be better. Finally, we would like to acknowledge the assistance and encouragement of historians

of economic thought William Breit, Robert Ekelund, Guido Hülsmann, and especially of Robert Hébert. Historians Donna Bohannon, Joseph Stromberg, and Thomas Woods were also of great assistance. We thank Paul Wicks for copyediting the manuscript. We wish to thank Paul Wicks for copy editing the manuscript and our family and friends, especially Bill Curlee for their support.

# PART ONE

# Production, Distribution, and Consumption

# Chapter One

## Wealth

**Abstract:** Cantillon defines wealth as the consumption goods produced by land and labor. This contrasted with the Mercantilists who thought money was wealth.

LAND IS THE SOURCE or matter from which all wealth is drawn; man's labor provides the form for its production, and wealth in itself is nothing but the food, conveniences, and pleasures of life.

Land produces grass, roots, grain, flax, cotton, hemp, shrubs and several kinds of trees, with fruits, bark, and foliage like that of the mulberry tree for silkworms, and it supplies mines and minerals. From these, the labor of man creates wealth.

Rivers and seas provide fish for the food of man, and many other things for his enjoyment. But these seas and rivers belong to the adjacent lands or are common to all, and man's labor extracts fish and other advantages from them.

# Chapter Two

## Human Societies

**Abstract:** All human societies are based on a system of property rights. The distribution of rights will necessarily be unequal, and the use to which property is put will be dependent on the tastes of the owners.

WHICHEVER WAY A SOCIETY of men is formed, the ownership of the land they inhabit will necessarily belong to a small number among them.

In nomadic societies like the Tartar hordes[1] and Indian tribes, who go from one place to another with their animals and families, the king or leader must fix the boundaries for households and neighborhoods around the camp. Otherwise, there would always be disputes over living quarters or access to life's conveniences such as forests, pastures, water, etc. However, when the districts and boundaries are settled for all, it is as good as ownership while they stay in that place.

In the more settled societies, if a prince at the head of an army has conquered a country, he will distribute the lands among his officers or friends according to their merit or his pleasure (as was originally the case in France). He will then establish laws to maintain property rights for them and their descendants, or he will reserve the ownership of the land to himself and employ his officers or friends to cultivate it. He also may grant the land to them on condition that they pay an annual royalty or rent, or

[1] The Mongols, under Genghis Khan captured territories from the Pacific Ocean to Poland and from Russia to the Middle East and India and established the Mongol Empire, the largest contigous empire in world history during the 13th and 14th centuries.

he may grant it to them while reserving the right to tax them every year according to his needs and their capacity. In all these cases, the officers or friends, whether independent owners or dependents, whether administrators or supervisors of the production of the land, will be few in number compared to all the inhabitants.

Even if the prince distributes the land equally among all the inhabitants, it will ultimately be divided among a small number. One man will have several children and will not be able to leave each of them a portion of land equal to his own. Another will die without children, and will leave his portion to someone who has land already, rather than to one who has none. A third will be lazy, extravagant, or sickly, and be obliged to sell his portion to someone more frugal and industrious, who will continually add to his estate by new purchases on which he will employ the labor of those, who having no land of their own, are obliged to offer him their labor in order to subsist.

At the first settlement of Rome, each citizen was given two units of land.[2] Yet, soon after, there was as great an inequality among inheritances as what we observe today in all the countries of Europe. The land eventually was divided among a few owners.

Assuming then that the lands of a new country belong to a small number of people, each owner will manage his land himself, or lease it to one or more farmers. In this economy, it is essential that the farmers and laborers should have a living, whether the land is exploited by the owner or by the farmers. The owner receives the surplus of the land; and he will give part of it to the prince or the government, or the farmers will give this part directly to the prince on behalf of the owner.

As for the use to which the land should be put, the first necessity is to employ part of it for the maintenance and food of those who work the land and make it productive. The rest depends mainly upon the desires and lifestyle of the prince, the lords of the State, and the property owner. If they are fond of wine, vineyards must be cultivated; if they are fond of silks, mulberry trees must be planted and silkworms raised. Moreover, part of the land must be employed to support those who supply these wants; if they delight in horses, pastures are needed, and so on.

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[2] Cantillon wrote that each person received two "journaux," which is approximately two acres of land.

However, if we assume that the lands belong to no one in particular, it is difficult to conceive how a society of men can be formed there. We see, for example, that for the communal lands of a village, there is a fixed number of animals that each of the inhabitants are allowed to maintain, and if the land were left to the first occupier in a new conquest or discovery of a country, the establishment of ownership would inevitably have to be based on some rule in order for a society to be established, whether the rule is determined by force or by law.

# Chapter Three

## Villages

**Abstract:** In this first of four chapters on economic geography and location theory, Cantillon explains that settlements are based on the requirements of production, especially the quantity of labor, and the extent of the specialization and division of labor.

HOWEVER THE LAND IS USED, whether pasture, wheat, vineyards, etc., the farmers or laborers who carry on the work must live nearby. Otherwise the time spent going to their fields and returning to their houses would consume too much of the day. Hence the necessity for villages widespread in all the countryside and cultivated lands, where there also must be enough blacksmiths and wagon makers for the tools, ploughs, and carts that are needed, especially when the village is far from the towns. The size of a village is naturally proportioned to the number of inhabitants the land requires for daily work, and to the artisans who find enough employment there by serving the farmers and laborers. However, these artisans are not quite so necessary in the vicinity of towns where the laborers can travel without much loss of time.

If one or more of the property owners reside in the village, the number of inhabitants will be greater in proportion to the domestic servants and artisans attracted there, and inns will be established for the convenience of the domestic servants and workmen who earn a living from the property owners.

If the land is only suitable for maintaining sheep, as in the sandy districts and moorlands, the villages will be fewer and smaller because only a few shepherds are required on the land.

If the land consists of sandy soil where only trees grow and there is no grass for livestock, and it is distant from towns and rivers, the trees will be useless for consumption. As in many areas of Germany, there will only be as many houses and villages as are needed to gather acorns and feed pigs in season. And, if the land is sterile, there will be no villages or inhabitants.

# Chapter Four

## Market Towns

**Abstract:** Entrepreneurs establish markets in centrally located villages which provide the necessary conditions under which prices are established between supply and demand. The size of the market town depends on the size of the economy it serves.

THERE ARE VILLAGES WHERE markets have been established by the interest of some property owner or royal resident. These markets, held once or twice a week, encourage several little entrepreneurs[3] and merchants to establish themselves there. In the market, they buy the products brought from the surrounding villages in order to transport them to the large towns for sale. In the large towns, they exchange them for iron, salt, sugar and other merchandise, which they sell on market days to the villagers. Many small artisans, like locksmiths, cabinetmakers and others, also settle down in these places to serve the villagers, and, as a result, these villages become market towns. A market town being located in the center of the villages whose people come to the market, it is natural and easier for the villagers to bring their products for sale on market days and to buy the articles they need, than it would be for the merchants and entrepreneurs to transport the merchandise to the villages and exchange them for the villagers' products.

1. For the merchants to go around the villages would unnecessarily increase the cost of transportation.

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[3] It was long believed that J.B. Say had introduced the term *entrepreneur* to economics, but Cantillon was the first to employ the term extensively in economic analysis.

2. The merchants would perhaps be obliged to go to several villages before finding the quality and quantity of products that they wish to buy.
3. The villagers would generally be in their fields when the merchants arrived and, not knowing what products the merchants desired, they would have nothing prepared and ready for sale.
4. It would be almost impossible to fix the price of the products and the merchandise in the villages, between the merchants and the villagers. In one village, the merchant would refuse the price asked for the products, hoping to find it cheaper in another village, and the villager would refuse the price offered for his merchandise in the hope that another merchant would come along and take it on better terms.

All these difficulties are avoided when the villagers come to town on market days to sell their products and buy the things they need. Prices are fixed by the proportion between the products displayed for sale and the money offered for it; this takes place in the same spot, under the eyes of all the villagers of different villages and of the merchants or entrepreneurs of the town. When the price has been settled between a few, the others follow without difficulty and so the market price of the day is determined. The peasant then goes back to his village and resumes his work.

The size of the market town is naturally proportioned[4] to the number of farmers and laborers needed to cultivate the lands dependent on it, and to the number of artisans and small merchants that the villages bordering on the market town employ with their assistants and horses. Finally, it also depends on the number of persons supported by the property owners who live in the town.

When the villages associated with a market town (i.e., those who ordinarily sell their products in a particular market town) are sizeable and have a large output, the market town will become considerable and large in proportion. However, when the neighboring villages have little production, the market town also is poor and insignificant.

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[4] Notice Cantillon's use of the phrase "naturally proportional." He uses the word *proportion* throughout the book when he is explaining naturally equilibrating or harmonious human processes that are self-regulating, especially economic processes, not in the sense of exact ratios and percentages.

# Chapter Five

## Cities

**Abstract:** Cities form at sites where large property owners have decided to live. Specialization of labor expands to meet the demands of the wealthy. Cities grow even larger when manufacturing industries produce for export, and whose workers are essentially supported by the production of foreign lands. Cantillon placed a great deal of emphasis on transportation costs. He found that property owners who lived far from their lands would experience a reduction in income proportional to the cost of transporting their production to market.

THE PROPERTY OWNERS who only have small estates usually reside in market towns and villages near their lands and farmers. The transportation of their production to distant cities would not enable them to live there comfortably. However, property owners that own several large estates have the means to live at a distance from them and enjoy a pleasant society with other property owners and nobility of the same species.

If a prince or noble, who has received large grants of land at the time of a conquest or discovery of a country, fixes his residence in some pleasant spot, and several other lords come to live there to be within reach of each other and to enjoy a pleasant society, this place will become a city. Great houses will be built for the nobility in question, and many more will be built for the merchants, artisans, and people of all sorts of professions who will be attracted there. These noblemen will require bakers, butchers, brewers, wine merchants, and manufacturers of all kinds to service their needs. These entrepreneurs will, in turn, build houses in this location or

will rent houses built by other entrepreneurs. There is no great nobleman whose expense upon his house, his retinue and servants, does not maintain merchants and artisans of all kinds, as may be seen from the detailed calculations that I had made for the supplement of this essay.[5]

All these artisans and entrepreneurs serve each other, as well as the nobility. The fact that their upkeep ultimately falls on property owners and nobles is often overlooked. It is not perceived that all the little houses in a city, such as we have described, depend upon and subsist at the expense of the great houses. However, it will be shown later that all the classes and inhabitants of a state live at the expense of the property owners.[6] The city in question will grow larger if the king, or the government, establishes law courts to which the people of the market towns and villages of the province must have recourse. An increased number of entrepreneurs and artisans of every sort will be needed for the maintenance of the judges and lawyers.

If in this same city workshops and factories are established to manufacture beyond home consumption, for export and sale abroad, the city will be large in proportion to the workmen and artisans who live there at the expense of foreigners.

However, if we put aside these considerations, in order to not complicate our subject, we may say that the gathering of several rich property owners living in the same place suffices to form what is called a city. Many cities in Europe, mainly in the interior, owe the number of their inhabitants to this assemblage. In this case, the size of a city is naturally proportioned to the number of property owners living there, or rather to the production of the land which belongs to them, minus the cost of transportation to those whose lands are the furthest away, and the part that they are obliged to give to the king or the government, which is usually consumed in the capital.

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[5] This is the first mention of the supplement which has been lost.

[6] Briefly put, all food and raw materials are produced on the land controlled by property owners. Property owners sustain farmers and laborers as well as artisans and manufacturing workers to the extent that raw materials are worked into fine goods. If the owners live in cities far from their lands, they also must support those (and their horses) who transport the products to the city.

# Chapter Six

## Capital Cities

**Abstract:** Wherever a government establishes its capital, the city will grow in size because the additional spending attracts labor and businesses to service the government and its employees and thus, it becomes a commercial center for the nation as well.

A CAPITAL CITY IS FORMED in the same way as a provincial city, with these differences: the largest property owners in the state reside in the capital; the king or supreme government is established in it and spends the government's revenues there; the supreme courts of justice are located there; it is the center of the fashions, which all the provinces take as their model; and the property owners, who reside in the provinces, occasionally spend time in the capital, and they send their children there to be educated. Therefore, all the lands in the state contribute, more or less, to maintain those who dwell in the capital.

If a sovereign leader leaves a city to establish residence in another, nobles will follow him and locate their residence with him in the new city, which will become great and important at the expense of the first. We have seen a recent example of this in the city of Petersburg to the disadvantage of Moscow,[7] and one sees many old cities, which were important, fall into ruin and others spring from their ashes. Great cities usually are built on the seacoast or on the banks of large rivers for the convenience of transportation. Water transportation of the products and merchandise necessary for the subsistence and comfort of the inhabitants is much cheaper than wagons and land transportation.[8]

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[7] Tsar Peter the Great moved the capital of Russia to Petersburg in 1713.

[8] Notice that Cantillon again mentions the importance of transportation costs. Four-wheel wagons were developed in 12th century but were mostly used by the wealthy until the late 18th century.

# Chapter Seven

## The Labor of the Plowman is of Less Value than that of the Artisan

**Abstract:** The opportunity cost of becoming a skilled worker includes both the direct expenses as well as the foregone labor during the training period or apprenticeship. As a result, skilled workers must be paid higher wages than unskilled workers.

A LABORER'S SON, AT SEVEN to twelve years of age, begins to help his father either in keeping the herds, digging the ground, or in other sorts of country labor that require no art or skill.

If his father has him taught a trade, he loses his assistance during the time of his apprenticeship and is obligated to clothe him and to pay the expenses of his apprenticeship for many years.[9] The son is thus dependent on his father and his labor brings in no advantage for several years. The [working] life of man is estimated at only 10 or 12 years, and as several are lost in learning a trade, most of which in England require seven years of apprenticeship, a plowman would never be willing to have a trade taught to his son if the artisans did not earn more than the plowmen.

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[9] This is where Cantillon explains the opportunity cost of an apprenticeship (similar to the opportunity cost of college) where the father has to pay for the apprenticeship (college tuition) and loses the child's labor for several years (lost wages). Cantillon includes the cost of clothing (which would not apply in the case of college) because children who work on the farm help make their own clothing, but children in apprenticeships do not (See Part 1, Chapter 9, paragraph 3).

Therefore, those who employ artisans or professionals must pay for their labor at a higher rate than for that of a plowman or common laborer. Their labor will necessarily be expensive in proportion to the time lost in learning the trade, and the cost and risk incurred in becoming proficient.

The professionals themselves do not make all their children learn their own trade: there would be too many of them for the needs of a city or a state and many would not find enough work. However, the work is naturally better paid than that of plowmen.

# Chapter Eight

## Some Artisans Earn More, Others Less, According to the Different Cases and Circumstances

**Abstract:** In addition to training and the forces of supply and demand, workers with higher quality skills, risky jobs, or jobs which require trustworthy employees will receive higher wages. This is now known as the theory of compensating differentials that is often attributed to Adam Smith.

IF TWO TAILORS MAKE all the clothes of a village, one may have more customers than the other, whether from his way of attracting business, because his products are better or more durable than the other, or because he follows the fashions better in the style of his garments.

If one dies, the other, finding himself with more work, will be able to raise the price of his labor, expediting the work of some in preference to others, until the villagers find it to their advantage to have their clothes made in another village, town or city, losing the time spent in going and returning, or until another tailor comes to live in their village and shares the business.

The jobs which require the most time in training or most ingenuity and industry must necessarily be the best paid. A skillful cabinetmaker must receive a higher price for his work than an ordinary carpenter, and a good clock and watchmaker more than a blacksmith.

The arts and occupations, which are accompanied by risks and dangers, like those of foundry workers, sailors, silver miners, etc., ought to be paid in proportion to the risks. When skill is needed, over and above

the dangers, they ought to be paid even more, such as ship pilots, divers, engineers, etc. When capacity and trustworthiness are needed, the labor is paid still more highly, as in the case of jewelers, bookkeepers, cashiers, and others.

By these examples, and a hundred others we could draw from ordinary experience, it is easily seen that the differences in the prices paid for labor is based upon natural and obvious reasons.

# Chapter Nine

## The Number of Laborers, Artisans, and Others, Who Work in a State, is Naturally Proportioned to the Demand for Them

**Abstract:** The supply of workers adjusts itself to the demand for labor, across all professions, via wage rates, migration, and changes in population. Prosperity cannot be created by subsidizing job training.

IF ALL THE FARM LABORERS in a village raise several sons to the same work, there will be too many farm laborers to cultivate the lands of the village, and the surplus adults will have to leave in order to seek a livelihood elsewhere, which they generally find in cities. If some remain with their fathers—as they will not all find sufficient employment—they will live in great poverty and will not marry for lack of means to raise children. If they do marry, their children will soon die of starvation, with their parents, as we see every day in France.

Therefore, if the village continues in the same employment pattern, and derives its living from cultivating the same area of land, its population will not increase in a thousand years.

It is true that the women and girls of this village can, when they are not working in the fields, occupy themselves in spinning, knitting or other work that can be sold in the cities. However, this rarely suffices to support the extra children, who leave the village to seek their fortune elsewhere.

The same may be said of the artisans of a village. If a tailor makes all the clothes for the villagers and then raises three sons to the same job, there will only be enough work for one successor to him and the other two must seek their livelihood elsewhere. If they do not find employment in the neighboring town, they must move further away or change their occupations and earn a living by becoming servants, soldiers, sailors, etc.

By the same process of reasoning, it is easy to conceive that the laborers, artisans, and others, who earn their living by working, must proportion themselves in number to the employment and demand for them in market towns and cities.

If four tailors are enough to make all the clothes for a town and a fifth arrives, he may find some work at the expense of the other four. Therefore, if the labor is divided between the five tailors, neither of them will have enough work, and each one will live more poorly.

It often happens that laborers and artisans do not have enough employment when there are too many of them to share the business. It also happens that they can be deprived of work by accidents and by variations in demand, or that they are overburdened with work, according to the circumstances. Be that as it may, when they have no work, they leave the villages, towns or cities where they live in such numbers and those who remain are always proportioned to the employment that suffices to maintain them. When there is a continuous increase of work, there are gains to be made and others will move in to share the business.

From this, it is easy to understand that the charity schools in England, and the proposals in France, to increase the number of artisans, are useless. If the King of France sent 100,000 of his subjects, at his expense, into Holland to learn seafaring, they would be of no use when they returned if no more vessels were sent to sea than before. It is true that it would be a great advantage for a state to teach its subjects to produce the manufactured goods that are customarily drawn from abroad, and all the other articles bought there, but I am, at present, only considering a state in relation to itself.[10]

[10] It should be remembered that in Cantillon's time, France was suffering under an economic policy of severe mercantilism where all manufacturing was highly restricted, monopolized, heavily taxed, and closely regulated. Therefore manufactured goods, primarily textiles, were sold at high prices and this encouraged imports. Cantillon found that subsidizing training was

As the artisans earn more than the laborers, they are better able to raise their children into professions, and there will never be a lack of artisans in a state when there is enough work for their constant employment.[11]

both expensive and unnecessary in a free economy because skilled labor would be supplied if there was a demand as he stated in the following paragraph.

[11] Cantillon will emphasize throughout the *Essai* that manufacturing should be allowed to grow to its largest natural extent because manufacturing labor earns higher wages (as he explained in Part 1 Chapter 7) and therefore has a higher standard of living.

# Chapter Ten

## The Price and Intrinsic Value of a Thing, in General, is the Measurement of the Land and Labor, which enter into its Production

**Abstract:** Intrinsic value can be measured by the quantity of land and laborers, taking into account the quality of land and labor. Some goods are produced almost entirely with land, others solely from labor. In the garden example, intrinsic value is both the direct expenses of the garden and the foregone value of land. Intrinsic value of a choice never changes, but market prices vary according to demand. Cantillon's construction of "intrinsic value" should therefore be understood as the concept of opportunity cost, not the essential nature of a thing.

ONE ACRE[12] OF LAND produces more wheat, or feeds more sheep, than another. The work of one man is more expensive than that of another, as I have already explained, according to superior skill and circumstances of the time. If two acres of land are of equal quality, one will feed as many sheep and produce as much wool as the other, assuming the labor to be the same. In addition, the wool produced by one acre will be the same, and will sell at the same price, as that produced by the other.

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[12] Cantillon used the word arpent. In France, from the 16th to 18th centuries, the "arpent de Paris" was a unit of land , which is equal to 0.84 acres.

If the wool of the one acre is made into a suit of coarse cloth, and the wool of the other into a suit of fine cloth, the latter will require more work and more expensive workmanship, and it will sometimes be ten times more expensive, though both contain the same quantity and quality of wool. The quantity of the production of the land, and the quantity as well as the quality of the labor, will necessarily enter into the price.

A pound of flax processed into fine Brussels' lace requires the labor of 14 persons for a year, or of one person for 14 years, as may be seen in the Supplement from a calculation of the different processes. We also see that the price obtained for the lace is sufficient to pay for the maintenance of one person for 14 years, as well as the profits of all the entrepreneurs and merchants concerned.

The refined steel spring, which regulates an English watch, is generally sold at a price that makes the proportion of material to labor, or of steel to spring, one to one million.[13] In this case, labor makes up nearly all the value of the spring. See the calculation in the Supplement.

On the other hand, the price of hay in a field, on the spot,[14] or of trees we wish to cut down, is regulated by the material production of the land, according to its quality.

The price for taking a jug of water from the Seine River is nothing, because there is an immense supply, which does not dry up. However, in the streets of Paris, people give a sol[15] for it, which is the price, or measure, for the labor of the water carrier.

By these examples and inductions, I believe it will be understood that the price, or intrinsic value of a thing, is the measurement of the quantity of land and of labor entering into its production, having regard to the fertility or productivity of the land, and to the quality of the labor.

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[13] The original French edition has "one to one," but this is considered a scrivener's or printer's error. The actual ratio has been estimated several times and "one to one million" is considered the likely or approximate ratio calculated by Cantillon.

[14] Cantillon wrote "rendu sur les lieux" which means, "once on site." Higgs's "on the spot" is not perfectly clear, but Cantillon is clearly writing about hay that is being sold as it stands in the field and whether the buyer must harvest the hay or is allowed to let his animals graze in the field is less clear.

[15] A silver, and later copper coin in France.

But it often happens that many things, which actually have a certain intrinsic value, are not sold in the market according to that value; that will depend on the desires and moods of men, and on their consumption.

If a gentleman digs ditches and raises terraces in his garden,[16] their intrinsic value will be proportional to the land and labor; but the price, in reality, will not always follow this proportion. If he offers to sell the garden, it is possible that no one will give him half the expense he has incurred. It is also possible that if several persons desire it, he may be given double the intrinsic value; that is twice the value of the land and the expense he has incurred.

If the farmers in a state sow more wheat than usual (i.e., much more than they should for the year's consumption), the real and intrinsic value of the wheat will correspond to the land and labor, which enter into its production. However, as there is too great an abundance of it, and there are more sellers than buyers, the market price of the wheat will necessarily fall below the price or intrinsic value. If, on the contrary, the farmers sow less wheat than is needed for consumption, there will be more buyers than sellers, and the market price of wheat will rise above its intrinsic value.

There is never variation in the intrinsic value of things, but the impossibility of proportioning the production of goods and products in a state, to their consumption, causes a daily variation, and a perpetual ebb and flow in market prices. However, in well-ordered societies,[17] the market prices of commodities and merchandise, whose consumption is relatively constant and uniform, do not vary much from the intrinsic value. In addition, in years when production is not too meager or too abundant, the city officials are even able to fix the market prices of many things, like bread and meat, without anyone having cause to complain.

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[16] It was a common practice in 18th century gardening to raise the level of the garden, delineated by a retaining wall and then a dry ditch which would keep grazing animals out of the garden without the use of a fence which might hinder the view. Higgs translated "Si un Seigneur coupe des canaux & éleve des terrasses dans son Jardin" as "If a gentleman cuts canals and erects terraces in his garden." Here, Cantillon seems to be commenting on the value of home improvements.

[17] Cantillon used the phrase "les Sociétés bien réglées" or well-regulated societies. That phrase conjures up images of a government regulated economy and Cantillon was obviously speaking of the natural order of the market economy. In the same paragraph he disparages government price controls by noting that the market works so well that government officials can even fix prices without people complaining.

Land provides the matter, and labor the form, of all commodities and merchandise, and as those who work must subsist on the production of the land, it seems that some par value or ratio between labor and the production of the land might be found. This will form the subject of the next chapter.

# Chapter Eleven

## The Par Value or Ratio between the Value of Land and Labor

**Abstract:** William Petty set off the search for a par value between land and labor. Cantillon provides a theoretical answer (referenced in Adam Smith's *Wealth of Nations*) that property owners must provide their labor with the production of at least twice the land necessary to sustain the worker in order that enough children are raised to maintain the workforce over time. The amount of land will actually vary from job to job, person to person, and among different countries and societies. Therefore, the practical circumstances of the world dictate that there is no such "par" value between land and labor, only money—a "most certain measure"—can be used for income measurements and comparisons.

It does not appear that Providence gave the right of land possession to one man over another. The most ancient titles are founded on violence and conquest. The lands of Mexico belong today to the Spaniards and those of Jerusalem to the Turks. But however people come to the ownership and possession of land, we already have observed that it always falls into the hands of a small number of people compared to the total number of inhabitants.

If the owner of a great estate manages it himself, he will employ slaves or free men to work upon it. If he has many slaves, he must have

supervisors to make them work. He must likewise have slave artisans to supply goods and life's pleasures for himself and his workers, and must have skills taught to others in order to carry on the work.

In this economy, he must provide his laboring slaves their subsistence and wherewithal to raise their children. The supervisors must receive advantages proportional to the confidence and authority that they possess. The slaves, who are being taught a craft, must be maintained without any return during the time of their apprenticeship. In addition, the artisan slaves and their supervisors, who should be competent in the crafts, must have a better subsistence than the laboring slaves, etc., because the loss of an artisan would be greater than that of a laborer, and more care must be taken of him given the expense of training another to take his place.

On this assumption, the labor of an adult slave of the lowest class is worth at least as much as the quantity of land that the owner is obliged to allot for his food and necessities, and also to double the land which serves to raise a child until he is of age or fit for labor. Knowing that half of the children born die before the age of 17, according to the calculations and observations of the celebrated Dr. Halley[18], two children must be reared in order to maintain one of them until working age, and it seems that even this would not be enough to ensure a continuance of the labor force because adult men die at all ages.

It is true that the one half of the children who die before 17, more die in the first years after birth than in the following years, with at least one-third dying in their first year. This seems to diminish the cost of raising a child to working age. However, as the mothers lose much time in nursing their children in illness and infancy, and the daughters, even when grown up, are not the equals of the males in work and barely earn their living, it seems that to maintain one of two children to manhood or working age, as much land must be employed as for the subsistence of an adult slave. This is true whether the owner raises the children himself in his house or has

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[18] This is no doubt Dr. Edmond Halley (1656-1742) the famous astronomer who predicted in 1705 that a comet would appear in 1758 based on Newton's laws of motion and comet sighting in the years 1531, 1607, and 1682. The comet did indeed return as predicted and was later named in his honor. Dr. Halley is also credited with the publication of Newton's groundbreaking *Principia Mathematica* because he paid the publication's expenses and corrected the proofs of the book that otherwise might not have been published. Dr. Halley contributed to Issac Newton's *Universal arithmetick, or, A treatise of arithmetical composition and resolution, to which is added, Dr. Halley's method of finding the roots of aequations arithmetically* (1720).

them raised there, or if the slave father brings them up in a house or hamlet apart. Therefore, I conclude that the daily labor of the lowest slave corresponds in value to double the produce of the land required to maintain him, whether the owner gives it to him for his subsistence and that of his family,[19] or provides him and his family subsistence in his own house. This matter does not allow for an exact calculation, and exactitude is not very necessary; it suffices to be near enough to the truth.

If the owner employs the labor of vassals[20] or free peasants, he will probably maintain them better than slaves, according to the custom of the place where he lives. Yet, in this case, the work of a free laborer also ought to correspond in value to double the product of land needed for his maintenance. However, it will always be more profitable for the owner to maintain slaves than to maintain free peasants, because when he has raised too many slaves for his requirements, he can sell the surplus, as he does his cattle, and obtain for them a price proportionate to what he has spent in rearing them to manhood or working age, except in cases of old age or infirmity.[21]

In the same way, one may appraise the labor of slave artisans at twice the production of the land that they consume and that of supervisors likewise, because of the favors and privileges given to them above those who work under them.

When the artisans or laborers have their double portion at their own disposal, they employ one part of it for their own upkeep and the other for their children, if they are married.

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[19] In the Higgs edition (pp. 345-6), the French version of this section is italicized, but the English version is not. Apparently in the original manuscript only the first two words are underlined. This conclusion is noteworthy because it is a conclusion that Adam Smith attributed to Cantillon in the *Wealth of Nations*.

[20] Someone bonded to the land of a feudal landowner who would provide protection in exchange for the alligience of the vassal.

[21] Cantillon reaches the same conclusion as Fogel and Engerman (1974) did two hundred and forty-four years later. Cantillon found that slave labor was more profitable than free labor because the slave owner can sell off any excess supply of labor and recoup his cost, while a landowner dependent on free labor can only dismiss the labor and is unable to recoup his costs of rearing free labor. Fogel and Engerman base their argument on empirical calculations and attribute profits to exploitation. Although both discuss supervision and the loss of runaway slaves, neither consider the cost of policing a slave labor force, which is the major difference between supervising a free and slave labor force, and which greatly undermines the profitability of slave labor.

If they are unmarried, they set aside a little of their double portion to enable them to marry and to save a little for the household, however, most of them will consume the double portion for their own maintenance.

For example, the married laborer will be satisfied to live on bread, cheese, vegetables, etc., will rarely eat meat, will drink little wine or beer, and will have only old and shabby clothes, which he will wear for as long as he can. The surplus of his double portion will be used to raise and maintain his children. On the other hand, the unmarried laborer will eat meat as often as he can, will buy himself new clothes, etc., and use his double portion on his own maintenance. Thus, he will personally consume twice as much of the produce of the land as the married man.

I do not here take into account the expense of the wife. I assume that her labor barely suffices to pay for her own living, and when one sees a large number of little children in one of these poor families, I assume that charitable persons contribute something to their maintenance. Otherwise, the parents must deprive themselves of some of their necessities to provide for their children.

To better understand this, it is to be observed that a poor laborer may maintain himself, at the lowest estimate, upon the produce of an acre and a half of land, if he lives on bread and vegetables, wears hemp garments, wooden shoes, etc. However, if he can allow himself wine, meat, woolen clothes, etc., he may, without drunkenness or gluttony, or excess of any kind, consume the product of four to ten acres of land of average quality, such as the case with most of the land in Europe. I had some calculations made, which will be found in the Supplement, in order to determine the yearly amount of land which one man can consume the product of under each category of food, clothing, and other necessaries of life, according to the ways of life found in Europe, where peasants in different countries often are nourished and maintained very differently.

This is why I did not determine how much land corresponds in value to the work of the cheapest peasant or laborer when I wrote that it was worth double the product of the land used to maintain him because that varies according the ways of life in different countries. In some southern provinces of France, the peasant maintains himself on the product of one acre and a half of land, and the value of his labor may be reckoned equal to the product of three acres. But in the county of Middlesex, the peasant

usually consumes the product of five to eight acres of land and his labor may be valued at twice as much.

In the country of the Iroquois,[22] where the inhabitants do not plow the land and live entirely by hunting, the common hunter may consume the product of fifty acres of land, since it probably requires this amount to maintain the animals he eats in one year, especially as these savages have not the industry to grow grass by cutting down some trees, but leave everything to nature.[23] The labor of this hunter may then be reckoned equal in value to the product of one hundred acres of land.[24]

In the southern provinces of China, the land yields up to three crops of rice per year, and can bring in, each time, up to a hundred times as much as is sown. This is because of the great care they take with agriculture and the fertility of the soil, which is never fallow. The peasants, who work almost naked, live only on rice and drink only rice water and it appears that one acre can support more than ten peasants. It is not surprising, therefore, to see extraordinary population numbers. In any case, it seems from these examples that nature is altogether indifferent whether land produces grass, trees, or grain, or maintains a large or small number of vegetables, animals, or men.

Farmers in Europe seem to correspond to supervisors of laboring slaves in other countries, and the master artisans, who employ several journeymen artisans, to the supervisors of artisan slaves.

These master artisans know approximately how much work a journeyman artisan can do in a day in each craft, and often pay them in proportion to the work they do, so that the journeymen work as hard as they can, in their own interest, without further supervision.

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[22] The six native American tribes of Northern and Western New York State lived under a Constitutional confederacy called the Iroquois nation.

[23] In the original French version the paragraph ends here. In the Higgs translation he combines the paragraphs. The natural paragraph break would include the next sentence (as we have done) and start the next paragraph (which discusses China) with the the sentence that follows. This is possible evidence that the French edition was made from a copy of the original manuscript.

[24] This “nation” consisted of the Iroquois, Mohawk, Oneida, Onondaga, Cayuga and Tuscarora tribes of western New York and surrounding areas of Pennsylvania and Canada. They actually did practice some agriculture and are reported to have used the technique of burning down areas of forest lands to increase the quantity of grass available for the animals that they hunted. They are also known to have used second growth trees (those that grow after forest fires) to build the structures they lived in called longhouses. In addition, the Iroquois nation had a very advanced form of constitutional government.

As the farmers and master artisans in Europe are all entrepreneurs working at risk, some get rich and gain more than double their subsistence, others are ruined and become bankrupt, as will be explained more in detail in the analysis of entrepreneurs [Part 1 Chapter 13]. However, the majority support themselves and their families from day to day, and their labor or supervision may be valued at approximately three times the product of the land that serves for their maintenance.

Evidently, these farmers and master artisans, if they are supervising the labor of ten laborers or journeymen artisans, would be equally capable of supervising the labor of twenty, according to the size of their farms or the number of their customers. This renders uncertain the value of their labor or supervision.

By these examples, and others of the same sort that could be added, it is seen that the value of the day's work has a relation to the product of the soil. The intrinsic value of any thing may be measured by the quantity of land used in its production and the quantity of labor which enters into it, that is to say, by the quantity of land of which the product is allotted to the laborers. As all the land belongs to the prince and the property owners, all things that have this intrinsic value, have it only at their expense.

The money or coin, which finds the proportion of values in exchange, is the most certain measure for judging of the par between land and labor and the ratio of one to the other in different countries. This par varies according to the greater or less produce of the land allotted to those who labor.[25]

If, for example, one man earns an ounce of silver every day by his work, and another in the same place earns only half an ounce, one can conclude that the first has twice the amount of the production of the land to spend as the second.

Sir William Petty[26], in a little manuscript of the year 1685, considers this par or equation between land and labor as the most important

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[25] This paragraph is italicized in the French version of the Higgs edition, but not in the English version. It was not underlined in Mirabeau's copy of the manuscript. However, it is a noteworthy point in the chapter.

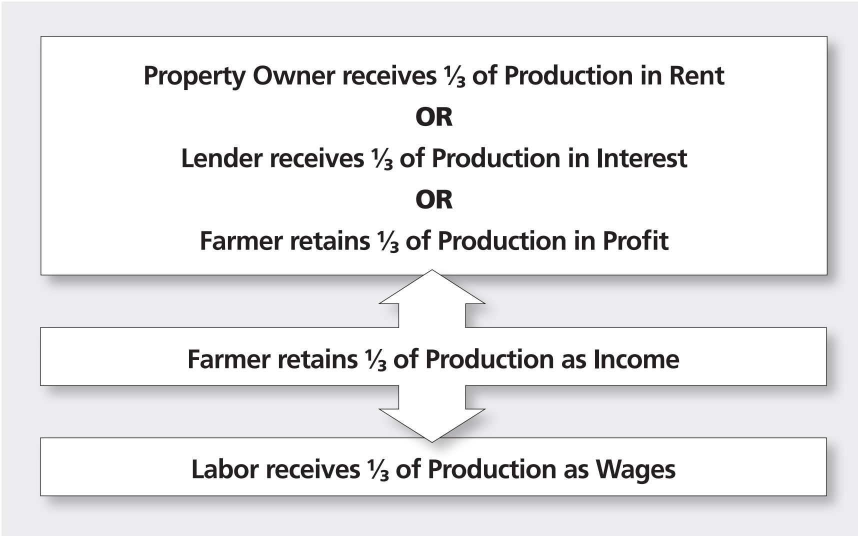
[26] William Petty (1623-1687) was an English statistician and political economist, but also was a scientist, inventor, and entrepreneur. He is mostly known for his survey of Ireland and one of his most famous books was the one Cantillon alludes to here, *Treatise of Taxes and Contributions* (1662, 1667 and 1685) although Petty also discusses 'par' in *The Political Anatomy of Ire-*

consideration in political arithmetic. However, the research he made in passing is fanciful and remote from natural laws because he has attached himself, not to causes and principles, but only to effects, as Mr. Locke[27], Mr. Davenant[28], and all the other English authors who have written on this subject, have done after him.

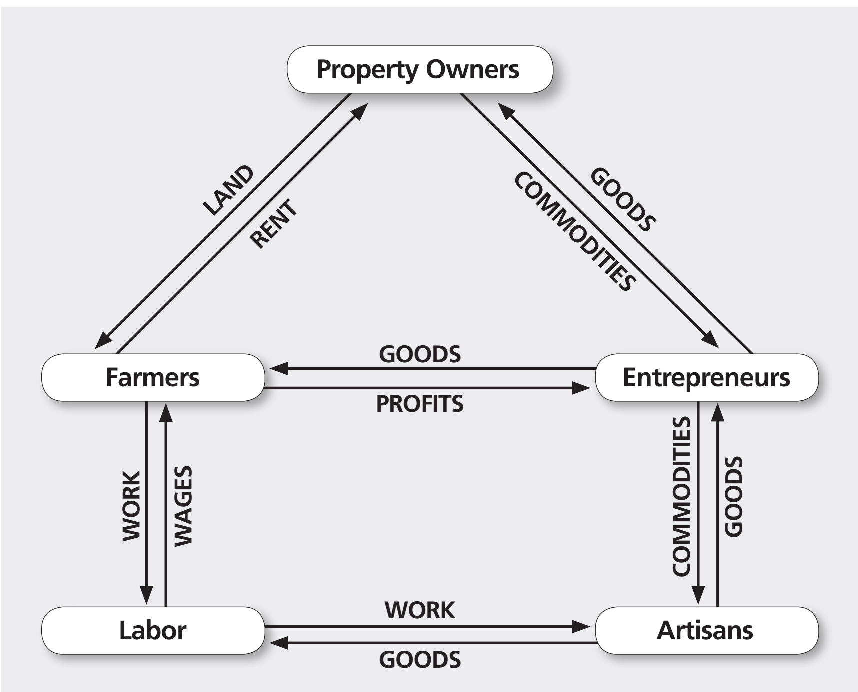
*land* (1691) and declared it the "most important consideration of political economy." Cantillon was obviously influenced by Petty, but mostly in the subject matter, not method or conclusions, because Cantillon is distinctly hostile to Petty throughout the *Essai*. It is interesting to note that Petty amassed a huge estate in Kerry County, Ireland (and throughout Ireland), the same County in which the Cantillon family lost its estates. See Aspromourgos (1996) for a detailed analysis of Petty and Cantillon on the subject of par value.

27 John Locke (1632-1704), English philosopher whose economic works include *Some Considerations on the Consequence of Lowering the Rate of Interest and Raising the Value of Money* (1691), *Short Observations on a printed paper entitled, For encouraging the Coining of Silver Money in England, and after for Keeping it here* (1695), and *Further Considerations concerning Raising the Value of Money* (1695).

28 Charles Davenant (1656-1714), English economist, lawyer, and member of Parliament who was Commissioner of the Excise (tax) from 1683 to 1689 and Inspector general of Exports and Imports from 1705 until his death in 1714. His important publications include *An Essay on the East India Trade* (1697), *Two Discourses on the Public Revenues and Trade of England* (1698), *An Essay on the probable means of making the people the gainers in the balance of Trade* (1699), and *A Discourse on Grants and Resumptions and Essays on the Balance of Power* (1701).




**Cantillon's Three Rents**




**Cantillon's Circular Flow Economy**

# Chapter Twelve

## All Classes and Individuals in a State Subsist or Grow Rich at the Expense of the Property Owners

**Abstract:** Cantillon develops a circular-flow model of the economy that shows the distribution of farm production between property owners, farmers, and workers. Farm production is exchanged for the goods and services produced in the cities by entrepreneurs and artisans. While the property owners are "independent," the model demonstrates the mutual interdependence between all the classes of people that Adam Smith dubbed the "invisible hand" in *The Theory of Moral Sentiments* (1759).

THERE ARE NONE BUT THE PRINCE and the property owners who live independent; all other classes and inhabitants are hired or are entrepreneurs. The proof and detail of this will be developed in the next chapter.

If the prince and property owners close their estates and will not allow them to be cultivated, it is clear that there would neither be food nor clothing for any of the inhabitants of the state. Consequently, all the individuals of the state are supported, not only by the product of the land that is cultivated for the benefit of the owners, but also at the expense of these same owners from whose property they derive all that they have.

The farmers generally have two-thirds of the product of the land: one for their expenses and the maintenance of their assistants, the other for the profit of their enterprise. On these two-thirds, the farmer generally provides, directly or indirectly, subsistence for all those who live in the

country, and also for artisans or entrepreneurs in the city, because of the goods from the city that are consumed in the countryside.

The owner usually has one-third of the product of his land, and on this third, he maintains all the artisans and others, whom he employs in the city as well. This often includes those who bring the goods from the countryside to the city.

It is generally assumed that one-half of the inhabitants of a state subsist and reside in cities, and the other half live in the country. That being the case, the farmer, who has two-thirds or four-sixths of the product of the land, pays directly or indirectly one-sixth to the city residents in exchange for the goods he acquires from them. This sixth, with the one-third or two-sixths that the owner spends in the city, makes three-sixths or one-half of the products of the land. This calculation is only to convey a general idea of the proportion; but in fact, if half of the inhabitants live in the cities, they consume more than half of the land's product. They live better than those who reside in the countryside and consume more of the production of the land because all artisans and dependents of the property owners are better maintained than the assistants and dependents of the farmers.

In any event, if we examine the means by which an inhabitant is supported, one will always find, when going back to the source, that their income comes from the owner's land, either in the two-thirds of the product reserved by the farmer, or the one-third that remains with the owner.

If a property owner only had enough land for one farmer, the farmer would get a better living out of it than the owner would. However, the nobles and large property owners in the cities sometimes have several hundred farmers and thus there are very few owners in proportion to all the inhabitants of the state.

It is true, that there are often several entrepreneurs and artisans in the large cities who live by foreign trade, and therefore, at the expense of foreign landowners. But at present, I am only considering a state with regard to its production and with its own industry, in order to avoid cluttering my argument with accidental circumstances.[29]

The land belongs to the owners but would be useless to them if it were not cultivated. The more labor is expended on it, other things being

[29] Here Cantillon employs the "closed economy" assumption, or condition, for his model.

equal,[30] the more it produces; and the more its products are refined, other things being equal, the more value they have as goods. Therefore, the owners need the inhabitants as they need the owners.[31] However, in this economy, it is the property owners who have the control and direction of the landed capital, to give the most advantageous turn and movement to the whole. Also, everything in a state depends mainly on the moods, modes and ways of life of the property owners, as I will try to clearly show in the remainder of this essay.

Thus, need and necessity enable farmers, artisans of every kind, merchants, officers, soldiers, sailors, domestic servants and all the other classes who work or are employed in the state, to exist. All these working people serve not only the prince and the property owners, but each other as well. Many of them do not work directly for the property owners, and so it is not seen that they subsist on the capital of these proprietors and live at their expense. As for those whose professions are not essential, like dancers, actors, painters, musicians, etc., they are only supported in the state for pleasure or ornamentation, and their number is always very small compared to the population.

[30] Here Cantillon employs *ceteris paribus* conditions to his model.

[31] This mutual dependence between the wealthy property owners and labor is what Adam Smith refers to as "the invisible hand" in *The Theory of Moral Sentiments*.

# Chapter Thirteen

## The Circulation and Exchange of Goods and Merchandise, as well as their Production, are Carried On in Europe by Entrepreneurs, and at a Risk

**Abstract:** Here Cantillon introduces, for the first time, the theory of entrepreneurship. Entrepreneurs are the prime directors of resources. Their occupations come with risks due to uncertainty, especially from competition and changing tastes. As a result, their income can be very large, but they also face the prospect of bankruptcy. The property owner is independent in having a large income (rent) from the land, and the capitalist, or large money owner, also can live independently on interest. Everyone else is ultimately dependent on the expenditures of property owners for their livelihoods.

THE FARMER IS AN ENTREPRENEUR who promises to pay the property owner, for his farm or land, a fixed sum of money (generally assumed to be equal in value to a third of the production) without assurance of the profit he will derive from this enterprise. He employs part of the land to feed herds, produce grain, wine, hay, etc., according to his judgment, without being able to foresee which of these will pay the best price. The price of these products will depend partly on the weather, partly on the demand; if wheat is abundant compared to consumption, it will sell at a cheap price, if there is scarcity, it will be expensive. Who can predict the number of births

or deaths that will occur during the current year? Who can foresee the increase or reduction in expenditures that can occur in families? And yet the price of the farmer's product naturally depends upon these unforeseen circumstances, and consequently, he conducts the enterprise of his farm with uncertainty.

The city consumes more than half of the farmer's products. He carries it to the market or sells it in the market of the nearest town, or perhaps to entrepreneurs who provide the transport. They obligate themselves to pay the farmer a fixed price for his products—the market price of the day—to receive an uncertain price in the city, which should nonetheless defray the cost of transport and leave them a profit. However, the daily variation in the price of products in the city, though not considerable, makes their profit uncertain.

The entrepreneur or merchant, who transports the products of the countryside to the city, cannot stay there to sell them at retail until the products are consumed. No family in a city will burden itself with the purchase at one time of the products it may need over time because each family is susceptible to increase or decrease in size and consumption, or at least to variation in the choice of products it will consume. Wine is almost the only article of consumption stocked by families. In any case, the majority of citizens live from day to day, and even the largest consumers will not be able to stock away products from the countryside.

For this reason, many people set up as merchants or entrepreneurs in the city, to buy the country products from those who bring it or to have it brought on their account. They pay a fixed price for them at the place where they are purchased, to resell wholesale or retail at an uncertain price.

Such entrepreneurs are the wholesalers of wool and grain, and the bakers, butchers, manufacturers and merchants of all kinds, who buy country production and materials to work them up and resell them gradually as the inhabitants require them for consumption.

These entrepreneurs never know how great the demand will be in their city, nor how long their customers will buy from them since their rivals will try, by all sorts of means, to attract their customers. All this causes so much uncertainty among these entrepreneurs that every day one sees some of them go bankrupt.

The manufacturer, who has bought wool from the merchant or directly from the farmer, cannot know the profit he will make in selling his cloths and fabrics to the tailor. If the latter does not have reasonable sales, he will not burden himself with the cloths and fabrics of the manufacturer, especially if those fabrics have gone out of fashion.

The draper or clothier is an entrepreneur who buys cloths and fabrics from the manufacturer at a certain price in order to sell them again at an uncertain price, because he cannot foresee the extent of the demand. He can, of course, fix a price and abstain from selling unless he gets it. However, if his customers leave him to buy cheaper from another, he will be consumed by expenses while waiting to sell at the price he demands, and that will ruin him as soon, or sooner, than if he sold without profit.

Shopkeepers and retailers of every kind are entrepreneurs who buy at a certain price and sell in their shops or the markets at an uncertain price. What encourages and maintains these entrepreneurs in a state is the fact that the consumers, who are their customers, prefer paying a little more to get what they want promptly and in small quantities, rather than having to stock up. In addition, most of them do not have the means to stock up by buying from wholesalers.

All these entrepreneurs become consumers and customers of each other, the draper of the wine merchant, and vice versa. In a state, they proportion themselves to the customers or their consumption. If there are too many hat makers in a city or on a street for the number of people who buy hats, the least patronized must go bankrupt. On the other hand, if there are too few, it will be a profitable business, which will encourage new hat makers to open shops and in this manner, entrepreneurs of all kinds adjust themselves to risks in a state.

All the other entrepreneurs, like those who take charge of mines, theaters, buildings, the traders by sea and land, restaurateurs, pastry cooks, innkeepers, etc., as well as the entrepreneurs of their own labor who need no capital to establish themselves, like journeymen artisans, coppersmiths, seamstresses, chimney sweeps, water transporters, live with uncertainty and proportion themselves to their customers. Master craftsmen like shoemakers, tailors, carpenters, wigmakers, etc., who employ journeymen according to the work they have, live with the same uncertainty since their customers may leave them any day. The entrepreneurs of their own labor

in art and science, like painters, physicians, lawyers, etc., live in the same uncertainty. If one attorney or lawyer earns 5,000 livres sterling per year in the service of his clients or in his practice, and another earns only 500, their income is just as uncertain as those that employ them.

It may perhaps be urged that entrepreneurs seek to snatch all they can in their calling and to get the better of their customers, but this is outside my subject.[32]

By all these inductions, and an infinity of others that could be made to extend this matter to the entire population of the state, it may be established that, except for the prince and the property owners, all the inhabitants of a state are dependent. They can be divided into two classes, entrepreneurs and hired workers. The entrepreneurs are on unfixed wages while the others are on fixed wages as long as there is work, although their functions and ranks may be very unequal. The general who has his pay, the courtier[33] his pension and the domestic servant who has wages, all fall into this last class. All the others are entrepreneurs, whether they are set up with capital to conduct their enterprise, or are entrepreneurs of their own labor without capital, and they may be regarded as living under uncertainty; even the beggars and the robbers are entrepreneurs of this class. Finally all the inhabitants of a state derive their living and their advantages from the property of the landowners and are dependent.

It is true, however, that if some person on high wages or some large entrepreneur has saved capital or wealth (that is, if he has reserves of wheat, wool, copper, gold, silver or some commodity or merchandise in constant use or circulation in a state having an intrinsic or a real value) he may be justly considered independent as long as the capital lasts. He may exchange it to acquire a mortgage, and receive income from the land and from public loans secured upon the land. He may even live better than the small landowners and buy property from some of them.

But commodities and merchandise, even gold and silver, are much more subject to accident and loss than the ownership of land. And however one may have earned or saved them, they are always derived from the

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[32] Here Cantillon avoids the normative and subjective issue of which person gains more in exchange, the buyer or seller.

[33] Someone from the royal family, royal court, or royal appointment.

land of actual owners, either by wages or by the saving of wages destined for one's subsistence.

The number of money owners[34] in a large state is often quite considerable. Though the value of all the money that circulates in the state barely exceeds the ninth or tenth part of the value of the production drawn from the soil, because the proprietors of money lend considerable amounts for which they receive interest either by a mortgage on land or the commodities and merchandise of the state, the sums due to them usually exceed all the money in the state. They often become so powerful a body that they could, in certain cases, rival the property owners if the owners were not often also money owners, and if the owners of large sums of money did not also seek to become property owners themselves.

Nevertheless, it is always true that all the sums earned or saved have been drawn from the land of the current owners. However, because so many property owners in a state ruin themselves daily, and those who acquire the property take their place, the independence given by the ownership of land applies only to those who keep possession of it. As all land always has a master or current owner, it is from their property that all the inhabitants of the state derive their living and all their wealth. If these owners confined themselves to living within their rental income, this would be beyond question, and in that case, it would be much more difficult for the other inhabitants to grow rich at their expense.

I will therefore establish as a principle that the property owners alone are naturally independent in a state; all the other classes are dependent, whether entrepreneurs or hired, and that all the exchange and circulation of the state is conducted by the actions of these entrepreneurs.

[34] The term "capitalist" had not been coined when Cantillon wrote the *Essai*.

# Chapter Fourteen

## The Desires, Fashions, and Ways of Life of the Prince, and especially of the Property Owners, Determine the Use to which Land is put in a State, and Cause the Variations in the Market Prices of all Things

**Abstract:** Cantillon constructs a model of the isolated estate or closed economy where the choices of property owners determine outputs and prices, regardless if they manage the isolated estate or lease it to farmers. Mistakes of the farmers or changes in demand by the property owners cause changes in prices, profits and losses, which drive the economy back to equilibrium. The result is that the price system directs resources to the same outcome as that provided by the direct management of the estate owner, ala Adam Smith's use of the "invisible hand" in the Wealth of Nations.

If the owner of a large estate (that I wish to consider here as if there were no other in the world)[35] cultivated it himself, he will follow his desires in the uses he puts it to. (1) He will necessarily use part of it for grain to feed the laborers, artisans and supervisors who work for him, and another part to feed the cattle, sheep and other animals necessary for their clothing and food or other conveniences, according to the way in which he wishes

[35] Closed economy assumption invoked here.

to maintain them. (2) He will turn part of the land into parks, gardens, fruit trees or vines according to his inclinations, and into meadows for the horses he will use for his pleasure, etc.

Let us now assume that to avoid all the care and trouble, he makes a deal with the supervisors of the laborers, gives them farms or pieces of land, and leaves to them the responsibility for maintaining, in the usual manner, all the laborers they supervise. The supervisors, now farmers or entrepreneurs, give the laborers, for working on the land or farm, another third of the production for their food, clothing and other requirements, such as they had when the owner employed them. Assume further that the owner makes a deal with the supervisors of the artisans for the food and other conveniences that he gave them, that he makes the supervisors become master artisans, fixes a common measure, like silver, to settle the price at which the farmers will supply them with wool, and they will supply him with cloth, and that the prices give the master craftsmen the same advantages and enjoyments they had when they were supervisors, and maintain the journeymen artisans the same as before. The artisans' work will be paid for by the day or by the piece, and the merchandise they have made, hats, stockings, shoes, clothes, etc. will be sold to the property owner, farmers, laborers, and other artisans reciprocally, at prices that leave all of them with the same advantages as before. The farmers will sell, at a proportionate price, their produce and raw material.

It will then come to pass that the supervisors, now entrepreneurs, will become the absolute masters of those who work under them, and they will have more care and satisfaction in working on their own account. We assume that after this change, all the people on this large estate live just as they did before, and all the portions and farms of this great estate will be put to the same use as they formerly were.

If some of the farmers sowed more grain than usual, they will feed fewer sheep and have less wool and mutton to sell. Consequently, there will be too much grain and too little wool for the consumption of the inhabitants. Wool will be expensive, which will force the inhabitants to wear their clothes longer than usual, and there will be too much grain and a surplus for the following year. And as we assume that the property owner has stipulated for the payment in silver for the third of the production of the farm that is owed to him, the farmers who have too much grain and too little wool, will not be able to pay him the rent. If he excuses them, they will plan

to have less grain and more wool for the next year, for farmers always take care to use their land for the production of those things, which they think will fetch the best price at market.[36] If, however, next year they have too much wool and too little grain for the demand, they will not fail to change from year to year the use of the land, until they arrive at proportioning their production to the consumption of the inhabitants. Thus a farmer who has appropriately proportioned his output to consumption will have part of his farm in grass, for hay, another for grain, wool and so on, and he will not change his plan unless he sees some considerable change in demand. However, in this example, we have assumed that all the people live approximately in the same way as when the property owner cultivated the land for himself, and consequently, the farmers will employ the land for the same purposes as before.

The owner, who has one-third of the product of the land at his disposal, is the principal agent in the changes that may occur in demand. Laborers and artisans, who live from day to day, change their way of living only out of necessity. However, some well-to-do farmers, master artisans and other entrepreneurs, whose expenses and compensations vary, will always take as their models the nobility and property owners. They imitate them in their clothing, meals, and way of life. If the property owners like to wear fine linen, silk, or lace, the demand for these goods will be greater than that of the owners themselves.

If a noble or property owner, who has leased out all his lands to farm, decides to considerably change his way of life; if, for example, he decreases the number of his domestic servants and increases the number of his horses, not only will his servants be forced to leave the estate in question, but also a proportionate number of artisans and of laborers who worked to maintain them. The portion of land that was used to maintain these inhabitants will be turned into pasture for the new horses, and if all landowners in the state did the same, they would soon increase the number of horses and diminish the number of inhabitants.

When a property owner has dismissed a great number of domestic servants, and increased the number of his horses, there will be too much

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[36] Cantillon model of the isolated estate where the direction of resources is transferred from the estate owner to a number of entrepreneurs is probably the basis of Adam Smith use of the invisible hand in the *Wealth of Nations*. Here is a clear statement of how self interest drives consumer sovereignty in the market economy.

wheat for the needs of the inhabitants, and so the wheat will be cheap and hay expensive. That will make the farmers enlarge their pastures and decrease wheat production to proportion production with consumption. Thus the demands of the owners determine the use of the land and when they bring about the variations in demand, this causes variations of market prices. If all the property owners of a state cultivated their own estates, they would use them to produce what they wanted. As the variations of demand are chiefly caused by their way of living, the prices that they offer in the market determine, for the farmers, all the changes that they make in the employment and use of the land.[37]

I do not consider here the variations in market prices, which may arise from the good or bad harvest of the year, or the extraordinary consumption, which may occur from foreign troops or other accidents. In order to not complicate my subject, I am considering only a state in its natural and uniform condition.[38]

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[37] Here again Cantillon is showing how the market economy transmits the demands of consumers and directs the allocation of resources and the production of goods a la the invisible hand.

[38] More simplifying assumptions (or ceteris paribus conditions) regarding weather, crop production, war, and other conditions.

# Chapter Fifteen

## The Increase and Decrease of the Number of People in a State chiefly Depends on the Taste, the Fashions, and the Ways of Life of the Property Owners

**Abstract:** Population is based on the tastes and choices of property owners. Early versions of the Malthusian approach to population growth—that it follows some mathematical formula—are criticized. This chapter also shows that the opulence and lavish spending of the prince and absentee landlords living far from their lands was responsible for the poverty and declining population of France, which ultimately led to the French Revolution.

EXPERIENCE SHOWS THAT TREES, plants and other kinds of vegetation can be increased to any quantity, to the extent that the land allocated to them can support.

The same experience shows that all the animal species can be multiplied to any quantity that the land allotted to them can support. Horses, cattle, sheep can easily be multiplied up to the number that the land will support. One can even improve the fields allocated for this purpose by irrigation, as in Milan.[39] Hay can be grown to raise cattle in stables and feed them in larger numbers than if they were allowed to freely roam in the

[39] Here Cantillon notes that technology in the form of irrigation increases the productivity of resources. He has been critized for ignoring the role of technological progress.

fields. Sheep may be fed on turnips, as in England, so that more can be fed with an acre of land than if it were pasture.

In a word, we can multiply all sorts of animals in such numbers as we wish to maintain, even to infinite numbers if we could find lands in infinite quantity to nourish them; and the multiplication of animals has no other bounds than the greater or lesser means allotted for their subsistence. There is no doubt that if all land was devoted to the simple sustenance of man, the race would increase up to the number that the land would support in the manner to be explained.

There is no country where population is carried to a greater height than in China. The common people are supported by rice and rice water; they work almost naked and in the southern provinces, they have three plentiful harvests of rice each year, thanks to the great care they give to agriculture. The land is never fallow and yields more than a hundredfold every year.[40] Those who wear clothes generally have cotton clothing, which needs so little land for its production that an acre of land, it seems, is capable of producing a quantity of clothing sufficient for 500 adults. The Chinese, by the principles of their religion, are obliged to marry, and raise as many children as their means of subsistence will afford. They look upon it as a crime to use land for pleasure gardens or parks, cheating the public of food. They transport travelers in sedan chairs, and save the work of horses upon all tasks which men can perform. Their number is incredible, according to the descriptions of China's visitors,[41] however, they are forced to let many of their children die in the cradle when they are unable to support them, keeping only the number they can feed. By hard and persistent labor, they draw from the rivers an extraordinary quantity of fish, and from the land, all that is possible.

Nevertheless, when bad years come, they die of hunger by the thousands in spite of the care of the emperor, who stores rice for such contingencies. Numerous then as the people of China are, they are necessarily proportioned to their means of living and do not exceed the number the country can support, according to their standard of living; and on this level, a single acre of land will support many of them.

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[40] Yields more than one hundred times the amount of seed that is planted.

[41] Higgs translated this as "Relations of Voyages" a common title of books written by travellers and explorers of foreign lands.

On the other hand, there is no country where the increase of population is more limited than among the savages in the interior parts of America. They neglect agriculture, live in the forests, and live by hunting the animals found there. As the trees consume the sap and substance of the earth, there is little pasture for animals, and since an Indian eats several animals in a year, 50 or 100 acres often supply only enough food for a single Indian.

A small tribe of these Indians will have 40 square leagues[42] for its hunting ground. They wage regular and bitter wars over these boundaries, and always proportion their numbers to their means of support from hunting.

The Europeans cultivate the land and draw grain from it for their subsistence. The wool of their sheep provides them with clothing. Wheat is the grain on which most of them are fed, but some peasants make their bread of rye, and in the north from barley and oats. The food of the peasants and the people is not the same in all countries of Europe, and land is often different in quality and fertility.

Most of the land in Flanders,[43] and part of that in Lombardy,[44] yields eighteen to twenty times the wheat sown, without lying idle. The countryside of Naples yields still more. There are some parts of France, Spain, England and Germany which yield the same amount. Cicero tells us that the land of Sicily in his time yielded tenfold, and the elder Pliny says that the Leontine[45] lands in Sicily yielded a hundred times the seed sown, those of Babylon a hundred and fifty times, and some African lands a good deal more.

Today, land in Europe yields on the average six times what is sown, so that five times the seed remains for the consumption of the people. Land usually lays fallow the third year, producing wheat the first year and barley and oats the second.

In the supplement there are estimates of the amount of land required to support a man, according to the different assumptions made about his way of living.

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[42] Roughly 100 square miles.

[43] Now located in northern Belgium.

[44] Now located in northern Italy.

[45] Leontini was a city state on the east coast of Sicily, just north of Syracuse.

It will be seen there that a man who lives on bread, garlic and roots, wears only hemp garments, coarse linen, wooden shoes, and drinks only water, like many peasants in the south of France, can live on the produce of an acre and a half of land of average quality, yielding a sixfold harvest and laying fallow every third year.

On the other hand, an adult man, who wears leather shoes, stockings, woolen cloth, who lives in a house and has a change of linen, a bed, chairs, table, and other necessities, moderately drinks beer or wine, eats meat every day, butter, cheese, bread, vegetables, etc., sufficiently and yet moderately, needs less than the product of four to five acres of land of average quality. It is true that in these estimates no land is allotted for horses, except those needed to plow and for the transport of the products a distance of ten miles.

History records that the first Romans each maintained his family on two journaux[46] of land, equal to one Paris acre, and approximately 330 square feet. They were almost naked, had no wine or oil, slept in straw, and hardly had any comforts, but because they intensely cultivated the land, which is fairly good around Rome, they drew from it plenty of grains and vegetables.

If the property owners had the desire to increase the population they would encourage peasants to marry young and raise children by promising to provide them with subsistence, devoting the land entirely to that purpose, and they would doubtless increase the population up to the point that the land could support, according to the products allotted for each person, whether those of an acre and a half, or four to five acres.

But if instead, the prince, or the property owners, made them use the land for other purposes than the upkeep of the people. If, by the prices they offer in the market for commodities and merchandise, they determine that the farmers will employ the land for other purposes than the maintenance of men (for we have seen that the prices they offer in the market and their consumption determine the use made of the land, just as if they cultivated it themselves), the people will necessarily decrease in number. Some will be forced to leave the country for lack of employment while others, not

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[46] Higgs did not translate Cantillon's *journaux*, but the Roman *jugerum* was their unit of land measurement and is equal to approximately ⅔ of an English acre.

having the necessary means of raising children, will not marry or will only marry late, after having saved for the support of the household.

If the property owners who live in the country move to the cities far away from their land, horses must be fed for the transport of food into the city for both the owner and all the domestic servants, artisans and others, whom their residence in the city will attract.

The transport of wine from Burgundy to Paris often costs more than the wine itself costs in Burgundy. Consequently, the land employed for the upkeep of wagon horses, and those who look after them, is more considerable than the land that produces the wine and supports those who have taken part in its production. The more horses there are in a state, the less food will remain for the people. The upkeep of wagon, hunting, or show horses often takes three or four acres of land each.

But when the nobility and property owners draw from foreign manufactures their cloths, silks, laces, etc., and pay for them by sending to the foreigner their native products, they significantly diminish the subsistence of the inhabitants and increase that of foreigners, who often become enemies of the State.

If a nobleman or property owner in Poland, to whom his farmers yearly pay a rent equal to about one-third of the product of his land, uses the cloths, linens, etc., of Holland, he will pay, for these goods, one half of the rent he receives, and perhaps use the other half for the subsistence of his family, on other products and rough manufactures of Poland. However, half his rent, on our assumption, corresponds to one-sixth of the production of his land, and this sixth part will be carried away by the Dutch, to whom the farmers of Poland will deliver wheat, wool, hemp and other products. Here then is a sixth part of the land of Poland withdrawn from its people, to say nothing of the feeding of the wagon horses, carriage horses and show horses maintained in Poland, because of the lifestyle of the nobility. Furthermore, if out of the two-thirds of the production of the land allotted to the farmers, the latter, imitating their masters, consume foreign manufactures that they also pay to the foreigners in raw products of Poland, there will be a good third of the production of the land in Poland removed from the food of the people, and, what is worse, mostly sent to foreigners and often serving to support the enemies of the State. If the property owners and the nobility in Poland would consume only the manufactures of their own state, bad

as they might be at the outset, the products would soon become better, and it would maintain a greater number of their own people at work, instead of giving this advantage to foreigners. And if all states took precautions not to be the dupes of other states in matters of commerce, each state would be considerable only in proportion to its products and the industry of its people.[47]

If the ladies of Paris enjoy wearing Brussels lace, and if France pays for this lace with Champagne wine, the production of a single acre of flax must be paid for with the production of sixteen thousand acres of vineyards, if my calculations are correct. This will be more fully explained elsewhere and the figures are shown in the Supplement. Suffice it to say that in this transaction, a great amount of the production of the land is withdrawn from the subsistence of the French, and all the products sent abroad, unless an equally considerable amount of products is brought back in exchange, tend to diminish the number of people in the state.[48]

When I said that the property owners might multiply the population as far as the land would support them, I assumed that most men desire nothing better than to marry if they are set in a position to maintain their families in the same style as they are content to live themselves. That is, if a man is satisfied with the production of an acre and a half of land, he will marry if he is sure of having enough to maintain his family in the same style. However, if he is only satisfied with the product of five to ten acres, he will be in no hurry to marry, unless he thinks he can support his family in the same manner.

In Europe, the children of the nobility are brought up in affluence; and as the largest share of the property is usually given to the eldest sons, the younger sons are in no hurry to marry. They usually live as bachelors, either in the army or in the monasteries, but will seldom be found unwilling to marry if they are offered heiresses and fortunes, or the means of supporting a family on the level they consider appropriate and without which, they think they will make their children unhappy.

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[47] The long-distance transportation of bulky commodies entail a reduced purchasing power for property owners and less sustanance for the local people.

[48] Notice that Cantillon is not arguing over the gains from trade, but that trading necessities for luxuries has the effect of reducing the population and recall from previous chapters that such reductions involve poverty, starvation, and emigration.

In the lower classes of the state, there also are men who, from pride and from reasons similar to those of the nobility, prefer to live in celibacy and to live on the little that they have, rather than settle down in family life. But most of them would gladly set up a family if they could count on supporting their family as they wish. They would consider it an injustice to their children if they brought them up only to fall into a lower class than themselves. Only a few men in a state avoid marriage because of a pure libertine spirit. All the lower classes wish to live and raise children who can live at least like themselves. When laborers and artisans do not marry, it is because they wait until they save enough to enable them to set up a household or to find some young woman who brings a little capital for that purpose. Every day, they see others like themselves who, for lack of such precautions, start a family and fall into the most frightful poverty, being obliged to deprive themselves of their own food in order to nourish their children.

From the observations of Mr. Halley,[49] at Breslaw in Silesia [a region in Poland], it is found that of all the females capable of child bearing, from 16 up to 45 years of age, not one in six actually bears a child every year. Instead, says Mr. Halley, there ought to be at least four in six who should have children every year, without including those who are barren or have stillbirths. The reason why four women out of six do not bear children every year is that they cannot marry because of the discouragement and difficulties in their way. A young woman takes care not to become a mother if she is not married; she cannot marry unless she finds a man who is ready to run the risk of it. Most of the people in a state are hired or are entrepreneurs; most are dependent and live in uncertainty whether they will find by their labor or their enterprise the means of supporting their household on an acceptable level. Therefore, they do not all marry, or marry so late that of six women, at least four should produce a child every year, but there is actually only one in six who becomes a mother.

If the property owners help to support the families, a single generation would suffice to push the increase of population as far as the production of the land will supply the means of subsistence. Children do not require as much of the land's production as adults. Both can live on more

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[49] Edmond Halley, "An Estimate of the Degrees of the Mortality of Mankind, drawn from curious Tables of the Births and Funerals at the City of Breslaw; with an Attempt to ascertain the Price of Annuities upon Lives," Philosophical Transactions, 196 (London, 1693), p.596-610.

or less according to their consumption. The northern people, where the land produces little, have been known to live on so little production that they have sent out colonists and swarms of men to invade the lands of the south, destroy the inhabitants, and appropriate their land.[50] According to the different manner of living, 400,000 people might subsist on the same products of the land, which ordinarily supports only 100,000. A man who lives on the production of an acre and a half of land, may be stronger and braver than one who consumes the production of five or ten acres. Therefore, it seems pretty clear that the number of inhabitants in a state depends on their means of subsistence. As the means of subsistence depend on the method of cultivating the soil, and this method depends chiefly on the taste, desires, and manner of living of the property owners, the increase and decrease of population also stand on the same foundation.

The increase of population can be carried furthest in the countries where the people are content to live the most poorly and to consume the least production of the soil. In countries where all the peasants and laborers are accustomed to eat meat and drink wine, beer, etc., not many inhabitants can be supported.

Sir William Petty, and after him Mr. Davenant, Inspector of the Customs in England, seem to depart from nature when they try to calculate the propagation of the race by progressive generations from Adam, the first father. Their calculations seem to be purely imaginary and to be drawn up at random. On the basis of what they have seen of the actual birth rate in certain districts, how could they explain the decrease of those innumerable people formerly found in Asia, Egypt, etc. and even in Europe? If 17 centuries ago, there were 26 million people in Italy, now reduced to 6 millions at most, how can it be determined by the progressions of Mr. King that England,[51] which today contains 5 or 6 million inhabitants, will probably have 13 millions in a certain number of years? We see daily that Englishmen, in general, consume more of the product of the land than their

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[50] Cantillon is here refering to the Vikings of Scandanvia.

[51] This must refer to Gregory King (1648-1712) who was born at Litchfield, England. He was a painter, engraver, printer, and mapmaker. He later became interested in "political arithmetic" and wrote *Natural and Political Observations and Conclusions upon the State and Condition of England,* in 1696. Although not published for more than a century later, Malthus refers to King's population statistics (of 1693) and seems to have been influenced by them. King's calculations indicated that the number of births exceeded the number of death by a ratio of 115 to 100.

fathers did, and this is the real reason why there are fewer inhabitants than in the past.

Men multiply like mice in a barn if they have unlimited means of subsistence. The English in the colonies will become more numerous, in proportion, in three generations than they would in 30 in England, because in the colonies, they cultivate new tracts of land from which they expel the savages.[52]

In all countries at all times, men have waged wars for the land and the means of subsistence. When wars have destroyed or diminished the population of a country, the savages and civilized nations soon repopulate it in times of peace; especially when the prince and the property owners lend their encouragement.

A state, which has conquered several provinces, may, by tribute imposed on the vanquished, acquire an increase of subsistence for its own people. The Romans drew a great part of their subsistence from Egypt, Sicily and Africa and that is why Italy then had so many inhabitants.

A state where mines are found, where manufactures do not require much of the production of the land to export their goods to foreign countries, and which receives from them, in exchange, plentiful merchandise and commodities from the land, provides a larger subsistence fund for its subjects.

The Dutch exchange their labor in navigation, fishing and manufacturing, principally with foreigners, for the products of their land. Otherwise, Holland could not support half of its population. England buys from abroad considerable amounts of timber, hemp and other materials or products of the soil and consumes much wine for which she pays in minerals, manufactured goods, etc. That saves the English a great quantity of the production of their soil. Without these advantages, the people of England, based on their standard of living, could not be as numerous as they are. The coal mines save them several million acres of land, which would otherwise be needed to grow timber.

But all these advantages are refinements and exceptional cases, which I mention only incidentally. The natural and constant way of increasing

[52] Cantillon's forecast is remarkably accurate.

population in a state is to find employment for the people there, and to make the land provide their means of support.

It is also a question outside of my subject whether it is better to have a great multitude of inhabitants, poor and badly provided for, or a smaller number with better means; a million who consume the product of six acres per head or four million who live on the product of an acre and a half.

# Chapter Sixteen

## The more Labor there is in a State, the more the State is Judged Naturally Rich

**Abstract:** The wealth of a nation depends on putting the labor force to work. Those who are unnecessary for farming can be employed in making higher quality products and manufactured goods, particularly durable goods made from metal. Saving is the key determinant of wealth and gold is a particularly useful form of savings because it can purchase all things, even in time of war. The prince and property owners determine how people will be employed by their consumption choices, while the Catholic Church reduces the resources available to materially sustain the people.

IN A LONG CALCULATION included in the supplement, it is shown that the labor of 25 adults is sufficient to provide for 100 others adults with all the necessities of life, according to the European standard of living. In these estimates, it is true that food, clothing, housing, etc., are coarse and rather elementary, but there is ease and abundance. It may be assumed that a good third of the people in a state are too young or too old for daily work, and that another sixth are property owners, sick, or entrepreneurs of different sorts, who do not, by the labor of their hands, contribute to the different needs of men. That makes half the people without work, or at least without the work in question. So if 25 persons do all the work needed for the maintenance of 100 others, there remain 25 persons out of the 100 who are capable of working but have nothing to do.

The soldiers, and the domestic servants in well-to-do families, will form part of these 25. And if all the others are employed refining, by additional labor, the things necessary for life, like making fine linen, fine cloth, etc., the state will be judged rich in proportion to this increase in labor, though it adds nothing to the quantity of things needed for the subsistence and maintenance of men.

Labor gives an additional taste to food and drink. A fork, a knife, etc. finely made, are more valuable than those roughly and hastily made. The same may be said of a house, a bed, a table, and everything needed for the comforts of life.

It is true that it is of little difference in a state whether people are accustomed to wear coarse or fine clothes if both are equally lasting, and whether people eat nicely or coarsely if they have enough and are in good health. Drink, food, clothing, etc., are equally consumed, and whether finely or coarsely produced, this type of wealth is not permanent.

But it is always true to say that the states where fine cloths, fine linen, etc., are worn, and where people eat properly and delicately, are considered rich compared to those where these things are cruder. Furthermore, the states where one sees more people living in the finest manner are considered wealthier than those where one sees fewer in proportion.

But if the 25 persons in 100 of whom we have spoken were employed to produce durable commodities, like mining iron, lead, tin, copper, etc., and refining them into tools and instruments for the use of men, such as bowls, plates and other useful objects that are much more durable than earthenware, the state will not only appear to be richer, but will be in reality.

It will be so, especially if these people are employed in mining gold and silver from the earth, which are not only durable metals, but are, so to speak, permanent. Fire itself cannot destroy them, they are generally accepted as the measure of value, and they can always be exchanged for any of the necessities of life. And if these inhabitants work to bring gold and silver in a state, in exchange for the manufactures and work that they produce and send abroad, their labor will be equally useful and will in reality improve the state.

The point that seems to determine the comparative greatness of states is their reserve stock above the yearly consumption, [i.e., savings] like reserves of cloth, linen, grain, etc., to be used in times of need, or war. And

as gold and silver can always buy these things, even from the enemies of the state, gold and silver are the true reserve stock of a state, and the larger or smaller the actual quantity of this stock necessarily determines the comparative greatness of kingdoms and states.[53]

If it is the practice to import gold and silver from abroad by exporting the commodities and merchandise of the state, such as grain, wine, wool, etc., this will enrich the state, but at the expense of a decrease in population. However, if gold and silver are imported from abroad in exchange for the labor of the people, such as manufactured goods and articles which contain little of the production of the soil, this will enrich the state in a useful and essential manner. It is true that in a great state, the 25 persons in 100, of whom we have spoken, cannot all be employed in making articles for foreign consumption. A million men, for example, would make more clothing than would be annually consumed in the entire commercial world. Most people in every country are clothed with local products, and there will seldom be found, in any state, 100,000 persons employed in making clothing for foreigners. This is shown in the supplement with regard to England, which, of all the nations of Europe, supplies the most cloth to foreigners.

In order for the consumption of the manufactures of a state to become significant in foreign countries, the goods must be well made and highly respected by a large consumption inside the state. This is necessary to discredit all foreign manufactures and give plenty of employment to the inhabitants.[54]

If enough employment cannot be found to occupy the 25 persons in 100 with work that is useful and profitable to the state, I see no objection

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53 Notice that Cantillon does not follow the mercantilist tradition where gold in circulation is viewed as a source of wealth. He concluded that gold as saving is a source of wealth because it can be traded for consumption goods in the future, like inventories of capital goods, and that gold has the additional advantage of being exchangeable for goods from foreign countries in times of war, even from the enemies.

54 Higgs translated Cantillon's "il faut y décréditer toutes les Manufactures Etrangeres, & y donner beaucoup d'emploi aux Habitans" as "It is needful to discourage all foreign manufacturers and to give plenty of employment to the inhabitants." Out of context, this is a classic mercantilist statement and Higgs must have been expecting such statements from a writer from the mercantilist period. In context, however, it does not make sense. Cantillon has already shown in Part 1 Chapter 9 that the king cannot create jobs via subsidized training, and here, he specifically writes that by first producing quality products that are valued locally is the manner by which export-related manufacturing jobs are eventually created for the inhabitants.

to encouraging employment which serves only for ornament or amusement. The state is not considered less rich for a thousand toys, which serve to entertain the ladies or even men, or are used in games and diversions, than it is for useful and serviceable objects. It is said that Diogenes, at the siege of Corinth, would roll his barrel so that he might not seem idle while all others were at work. And we have today societies of men and women occupied in work and exercise as useless to the state as that of Diogenes. As long as the labor of a man supplies ornament or even amusement in a state, it is worth while to encourage it, unless the man can find a way to employ himself usefully.

It is always the inspiration of the property owners, which encourages or discourages the different occupations of the people, and the different kinds of labor that they invent.

The example of the prince, followed by his court, is generally capable of determining the inspiration and tastes of the other property owners, and the example of these last naturally influences all the lower ranks. Therefore, and without a doubt, a prince is able, by his own example and without any constraint, to give such a turn as he likes to the labor of his subjects.

If each owner in a state had only a little piece of land, like that which is usually leased to a single farmer, there would hardly be any cities. The people would be more numerous and the state richer if every owner employed the inhabitants supported on his land with some useful work.

However, when the nobles have great estates, they necessarily bring about luxury[55] and idleness. Whether an Abbot at the head of 100 monks living on the produce of several fine estates, or a nobleman with 50 domestic servants and horses kept only for his service, live on these estates, would be indifferent to the state, if it could remain in constant peace.

But a nobleman with his retinue and his horses is useful to the state in time of war. He can always be useful in the judicial system and the keeping of order in the state in peacetime. And in every case, he is a great ornament

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[55] Here the use of the word "luxury" seems harmless enough, but it will play an important role in Part Two and Part Three. For Cantillon was not just refering to luxury goods or a high standard of living, but to what we might refer to as decadence and opulence as practiced by the French nobility leading up to the French Revolution. In more recent times we saw similar behavior by the leaders of Enron, WorldCom, and Tyco Industries. Cantillon explains that political manipulations can cause macroeconomic conditions that lead to such behavior on a large scale and ultimately to economic chaos or collaspe.

to the country, while the monks are, as people say, neither useful nor ornamental in peace or war, on this side of heaven.

The convents of mendicant friars are much more pernicious to a state than those of the closed orders. The closed orders usually do no more harm than to occupy estates which might serve to supply the state with officers and judges, while the mendicants, who are themselves without useful employment, often interrupt and hinder the labor of other people. They take from poor people in charity the subsistence which ought to fortify them for their labor. They cause them to lose much time in useless conversation, not to speak of those who involve themselves in families and those who are malicious. Experience shows that the countries which have embraced Protestantism, and have neither monks nor mendicants, have become visibly more powerful. They also have the advantage of having suppressed a great number of holy days when no work is done in Roman Catholic countries, and which diminish the labor of the people by about an eighth part of the year.

If a state wanted to achieve its full potential, it might be possible, it seems to me, to diminish the number of mendicants by incorporating them into the monasteries, as vacancies or deaths occur. This could be done while still providing places in the monastery for those who show little or no aptitude in speculative sciences,[56] but who are capable of advancing the practical arts, i.e., in some area of mathematics.[57] The celibacy of churchmen is not as disadvantageous as is popularly believed, as is shown in the preceding chapter, but their idleness is very harmful.

[56] Cantillon seems to be referring to the theoretical sciences and philosophy. Aristotle divided the "speculative sciences" into mathematics, physics and metaphysics.

[57] In Catholic areas, monasteries owned a considerable amount of land, produced large amounts of goods, and contributed significantly in the areas of education, innovation, invention, and practical science.

# Chapter Seventeen

## Metals and Money, and especially of Gold and Silver

**Abstract:** Gold and silver were highly valued before they were used as money. They hold many advantages over other goods such as durability, divisibility, transportability, and homogeneity. These are the reasons which led gold, silver, and copper to be chosen as money, not "fancy" or common consent. When princes debase money or issue imaginary money, they hurt the economy.

AS LAND PRODUCES MORE OR LESS GRAIN, according to its fertility and the labor expended on it, so do the mines of iron, lead, tin, gold, silver, etc., produce more or less of these metals, according to the richness of the mines and the quantity and quality of the labor expended upon them, in digging, draining, smelting, refining, etc. Work in silver mines is expensive because of the mortality it causes, and rarely does one last more than five or six years in this work.

The real or intrinsic value of metals is, like everything else, proportional to the land and labor that enter into their production. The outlay on the land for this production is considerable only so far as the owner of the mine can obtain a profit from the work of the miners when the veins are unusually rich. The land needed for the subsistence of the miners and workers, that is the mining labor, is the principal expense and often the downfall of the owner.

The market value of metals, as with other commodities and merchandise, is sometimes above, sometimes below, the intrinsic value, and varies with their abundance or scarcity, according to demand.

If the property owners, and the lower classes in a state who imitate them, rejected the use of tin and copper, wrongly supposing that they are injurious to health, and if they all used dishes and utensils of earthenware, these metals would be at a very low price in the markets, and the work that was carried on to extract them from the mine would be discontinued. But as these metals are found useful, and are employed in everyday life, they will always have a market value corresponding to their abundance or scarcity, and the demand for them. These metals will always be mined in order to replace what is lost by daily use.

Iron is not only useful for daily life, but may be said to be, in a certain way, necessary. And if the [native] Americans, who did not make use of iron before the discovery of their continent, had found mines and had known how to use it, there is little doubt that they would have labored to produce it whatever the cost.

Gold and silver are capable of serving not only the same purpose as tin and copper, but also most of the purposes of lead and iron. They have this further advantage over other metals in that they are not consumed by fire and are so durable that they may be considered permanent. It is not surprising, therefore, that the men who found the other metals useful, valued gold and silver even before they were used in exchange. The Romans prized them from the time of the foundation of Rome and yet only used them as money five hundred years later. Perhaps all other nations did the same and only adopted these metals as money long after using them for other purposes. However, we find from the oldest historians that from time immemorial, gold and silver were used as money in Egypt and Asia, and we learn in the Book of Genesis that silver monies were made in the time of Abraham.

Let us assume that silver was first found in a mine of Mount Niphates[58] in Mesopotamia.[59] It is natural to think that one or more property owners, finding this metal to be beautiful and useful, were the first to use it, and willingly encouraged the miner or entrepreneur to extract more of it from

[58] Located in modern-day Armenia, north of Iran and east of Turkey.

[59] Correspond roughly to modern-day Iraq.

the mine, giving him, in return for his work and that of his assistants, as much of the production of the land as they needed for their maintenance. This metal became more and more highly valued in Mesopotamia because as the large landowners bought ewers[60] made of silver, the lower classes, according to their means or savings, would buy silver cups. The entrepreneur of the mine, seeing a constant demand for his goods, certainly placed a value proportional to its quality or weight against the other commodities or merchandise which he took in exchange. While everybody looked on this metal as a precious and durable object and strove to own a few pieces of it, the entrepreneur, who alone could supply it, was in a position to demand in exchange an arbitrary quantity of other commodities and merchandise.[61]

Assume now that on the other side of the Tigris River, and therefore outside Mesopotamia, a new silver mine is discovered, of which the veins are exceptionally richer and larger than those of Mount Niphates, and that the working of this new mine, which was easily drained, required less labor than that of the first.

The entrepreneur of this new mine was naturally in a position to supply silver much cheaper than the entrepreneur of Mount Niphates. The people of Mesopotamia, who wished to have pieces and objects of silver, would find it more advantageous to export their merchandise and give it to the entrepreneur of the new mine in exchange for silver, rather than obtaining it from the original entrepreneur. The first mine owner, finding a smaller demand, would of necessity reduce his price; but the new entrepreneur lowering his price in proportion would obligate the first mine owner to stop his output. Then the price of silver, in exchange for other commodities and merchandise would necessarily be fixed by the price at the new mine. Silver would then cost less to the people beyond the Tigris than to those of Mesopotamia, who had to bear the cost of transporting their commodities and merchandise far away to obtain silver.

It is easy to conceive that when several silver mines were found and the property owners had developed a taste for this metal, they were imitated by the other classes. The pieces and fragments of silver, even when

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60 Decorative water pitcher.

61 Here Cantillon describes the single seller monopolist who must choose the price rather than having it decided in the marketplace.

not worked up, were sought after eagerly, because nothing was easier than to make such articles from them as were desired, according to their quantity and weight. As this metal was at least valued at what it cost to be produced, a few people who possessed some of it, finding themselves in need, could pawn it to borrow the things they wanted, and later even sell it outright. Hence there arose the custom of fixing its value in proportion to its quantity or weight in exchange for all products and merchandise. But as silver can be combined with iron, lead, tin, copper, etc., which are more common metals that are mined at less expense, the exchange of silver was subject to much fraud. This caused several kingdoms to establish mints in order to certify, by a public coinage, the true quantity of silver that each coin contains and to give to individuals, who bring bars or ingots of silver to the mint, the same quantity in coins bearing a stamp or certificate of the true quantity of silver they contain.

The costs of these certificates or coinage are sometimes paid by the public, or by the prince. It was the method followed in ancient times in Rome and today in England. Sometimes, those who take silver to be coined pay for minting, as is the custom in France.

Pure silver is hardly ever found in the mines. The ancients did not know the art of refining it to perfection. They always made their silver coins of fine silver, and yet, those which remain of the Greeks, Romans, Jews and Asians, are never perfectly pure. Today, we are more skilled: the secret for making pure silver has been discovered. However, the different methods of refining it are not part of my subject. Many authors have treated the subject, Mr. Boizard[62] among others. I will only observe that there is a good deal of expense in refining silver and for this reason, an ounce of fine silver is generally preferred to two ounces which contain one half of copper or other alloy. It is expensive to separate the alloy and extract the ounce of pure silver which is in these two ounces, while by simple smelting, any other metal can be combined with silver in any proportion desired. When copper is sometimes used as an alloy to fine silver, it is only to render it more malleable and more suitable to make objects out of it. But in the valuation of all silver, the copper or alloy is reckoned at nothing, and only the

[62] Jean Boizard *Traité des monoyes de leurs circonstances & dépendances* (editions of 1692, 1696, 1711, 1714).

amount of fine pure silver is considered. For this reason, an assay is always made to ascertain the amount of pure silver.

Assaying is merely refining a little piece of a bar of silver, for example, to find how much pure silver it contains and to judge the whole bar by this small sample. A small portion of the bar, twelve grains for example, is cut off and nicely weighed with scales that are so accurate, a thousandth part of a grain will sometimes turn the scale. Then the sample is refined by nitric acid or by fire, and the copper or alloy separated. When the silver is pure, it is weighed again in the same scale and if it then weighs eleven grains instead of twelve, the assayer says that the bar is eleven parts fine, i.e., it contains eleven parts of pure silver and one of copper or alloy. This will be more easily understood by those who have had the curiosity to see assays carried out. There is nothing mysterious about it. Gold is assayed in the same way, with the only difference being that the degrees of fineness of gold are divided into twenty-four parts called carats, since gold is more precious; and these carats are divided into thirty-two parts, while the degrees of fineness of silver are only divided into twelfths, called deniers,[63] and these are each divided into twenty-four grains.

Usage has conferred upon gold and silver the term intrinsic value, to designate and signify the quantity of true gold or silver contained in a bar. However, in this essay, I have always used the term intrinsic value to signify the amount of land and labor that are entered into production, not having found any term more suitable to express my meaning. I mention this only to avoid misunderstanding. When the subject is not gold or silver, the term will always apply, without any confusion.[64]

We have seen that the metals such as gold, silver, iron, etc., serve several purposes and have a value proportional to the land and labor that enter into their production. In the second part of this essay, we will see that because of trade men had to use a common measure in order to find the proportion and the value of the commodities and merchandise they wished to exchange. The only question is what commodity or merchandise would be most suitable for this common measure, and whether it was

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63 Deniers were also a small coin of varying composition and value in western Europe from the eighth century to the French Revolution and represented a small value.

64 Cantillon used the term "intrinsic value" to represent what we now know as "opportunity cost."

necessity, rather than choice, which has given this preference to gold, silver and copper, which are generally in use today for this purpose.

Ordinary products like grain, wine, meat, etc., have a real value and serve the needs of life, but they are all perishable and difficult to transport, and therefore are hardly suitable to serve as a common measure.

Goods such as cloth, linen, leather, etc., are also perishable and cannot be subdivided without in some way changing their value for the service of men. Like raw produce, they cost a good deal to transport and they even are expensive to store. Consequently, they are unsuitable as a common measure.

Diamonds and other precious stones, even if they had no intrinsic value and were demanded only by taste, would be suitable for a common measure if they were not susceptible to imitation and if they could be divided without loss. With these defects, and that of being unserviceable in use, they cannot serve as a common measure.

Iron, which is always useful and fairly durable, would not serve badly in absence of anything better. It is consumed by fire, and is too bulky in large quantities. It was used from the time of Lycurgus [in Sparta] till the Peloponnesian War; but as its value was necessarily based intrinsically, or in proportion to the land and labor that entered into its production, a great quantity of it was needed for a small value. It is curious that they spoiled the quality of the iron coins with vinegar to make them unfit for other uses other than exchange.[65] Thus, it could only serve the austere Spartans, and they themselves could not continue after they extended their interaction with other countries. To ruin the Spartans, one needed only to find rich iron mines, to make money like theirs, and use it to buy their commodities and merchandise, while they couldn't get anything from abroad for their spoiled iron. At that time, they did not concern themselves with any foreign trade, but only with war.

Lead and tin have the same disadvantage of bulk as iron and are consumable by fire, but in case of necessity, they would not do badly for exchange if copper was not more suitable and durable.

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[65] Lycurgus is thought to be the lawgiver and ruler that established the military culture of Sparta and abolished gold and silver coins in favor of iron. Cantillon reports here that not only was iron unfit for monetary use, but that the Spartans intentionally made the coins unfit for anything other than monetary use.

Copper alone served as money to the Romans until 484 years after the founding of Rome, and in Sweden it is still used even for large payments. However, it is too bulky for very considerable payments, and the Swedes themselves prefer payment in gold or silver, rather than in copper.

In the American colonies, tobacco, sugar, and cocoa have been used as money, but these commodities are too bulky, perishable, and of unequal quality. Therefore, they are hardly suitable to serve as money or as a common measure of value.[66]

Gold and silver alone are of small volume, equal quality, easily transported, divisible without loss, convenient to keep, beautiful and brilliant articles are made from them, and they are almost eternally durable. Everyone who has used other articles for money returns to them as soon as they can get enough for exchange. It is only in the smallest purchases that gold and silver are unsuitable. Gold or even silver coins of the value of a liard or a denier[67] would be too small to be handled easily. It is said that the Chinese, in small transactions, cut off little pieces with scissors from their plates of silver, and weigh the pieces. But since their trade with Europe, they have begun to use copper for such occasions.

It is then not surprising that all countries managed to use gold and silver as money or a common measure of value, and copper for small payments. Utility and need decided for them, and not taste or consent. Silver requires much labor and expensive labor for its production. Silver miners are highly paid because they rarely live more than five or six years at this work, which causes a high mortality. Therefore, a little silver coin corresponds to as much land and labor as a large copper coin.

Money, or the common measure of value, must correspond in fact and reality in terms of land and labor to the articles exchanged for it. Otherwise it would only have an imaginary value. For example, if a prince or a republic gave currency in the state to something that had no real and intrinsic value, not only would the other states refuse to accept it on that basis, but the inhabitants themselves would reject it when they perceived its lack of real value. When towards the end of the first Punic War, the Romans wished to give their copper coin, the "as," which weighed two ounces, the same value as the "as" of one pound or twelve ounces had before, it could

[66] British mercantilist policies made gold and silver artificially scarce.

[67] Both the liard and the denier were small French copper coins.

not long be maintained in exchange. The history of all times shows that when princes have debased their money, keeping it at the same nominal value, all raw commodities and merchandise have gone up in price in proportion to the debasement of the coinage.

Mr. Locke says that the consent of mankind has given its value to gold and silver. This cannot be doubted since absolute necessity had no share in it. It is the same consent that has given, and does give every day, a value to lace, linen, fine cloths, copper, and other metals. Man could subsist without any of these things, but it must not be concluded that they have only an imaginary value. They have a value proportional to the land and labor that enter into their production. Gold and silver, like other goods and food products, can only be produced at costs roughly proportional to the value set upon them, and whatever man produces by labor, this labor must provide his maintenance. It is the great principle that one hears every day from the mouths of the humble classes, who have no part in our speculations, and who live by their labor or their enterprise. "Everybody must live."

PART TWO

# Money and Interest

# Chapter One

## Barter

**Abstract:** Because the opportunity cost of a good cannot be fixed, it is impossible to know the proper exchange ratios for barter. This problem is overcome in the market by using commodities that have marketable characteristics, such as transportability, durability, and a recognized economic value, to serve as a medium of exchange. Prices of goods do not strictly follow the quantity theory of money.

IN PART ONE, AN ATTEMPT WAS MADE to prove that the real value of everything used by men is proportional to the quantity of land used for its production, and for the upkeep of those who produced it. In this Part Two, I will start by summing up the different degrees of land fertility in several countries, and the different kinds of products it can bring forth in greater abundance, according to its intrinsic quality. Then, assuming the establishment of towns and their markets to facilitate the sale of these products, it will be shown, by comparing exchanges that could be made, wine for cloth, wheat for shoes, hats, etc., and by the difficulty involved in transporting these different products or merchandises, that it was impossible to fix their respective intrinsic value. Therefore, it was absolutely necessary for men to find a substance easily transportable, not perishable, and having, by weight, a proportion or value[68] equal to the different products and merchandises, whether needed or convenient. Hence there arose the choice of gold and silver for large business, and of copper for small transactions.

[68] Here again Cantillon makes a direct connection between "proportional" and economic value.

These metals are not only durable and easy to transport, but correspond to the employment of a large area of land for their production, which gives them the true value people seek in an equivalent [i.e., a medium of exchange].[69]

Mr. Locke, who, like all the English writers on this subject, has looked only to market prices, establishes that the value of all things is proportional to their abundance or scarcity, and to the abundance or scarcity of the silver for which they are exchanged [i.e., the naïve quantity theory of money]. It is generally known that the prices of products and merchandise have increased in Europe ever since a great quantity of silver has been imported from the West Indies.

However, I think we must not believe, as a general rule, that the market prices of things ought to be proportional to their quantity and to the amount of silver in circulation in a particular place, because the products and merchandise that are to be exported do not influence the prices of those which remain. If, for example, there is twice as much wheat in a market town than what is consumed there, and we compare the whole quantity of wheat to that of silver, the wheat would be more abundant, in proportion, to the silver destined for its purchase. The market price will be maintained just as if there were only half the quantity of wheat, since the other half can be, and even must be, sent into the city, and the cost of transport will be included in the city price, which is always higher than that of the town. Nevertheless, apart from the case of hoping to sell in another market, I consider that Mr. Locke's idea is correct in the sense of the following chapter, and not otherwise.

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[69] In the 1952 French edition of the essay, a note underlines the fact that Cantillon was attached to the idea that money must first be a good before it can become money. This is an issue that Condillac also stressed.

# Chapter Two

## Market Prices

**Abstract:** Market prices are determined by the bargaining between suppliers and demanders. Price determination by supply and demand is illustrated with a thought experiment that uses a fixed quantity of a perishable product (i.e., green peas) and known maximum valuations of consumers.

LET US ASSUME THAT there are butchers on one side, and buyers on the other. The price of meat will be determined after some bargaining, and a pound of beef will be valued in silver [i.e., money] approximately the same as all beef offered for sale in the market [i.e., supply], is to all the silver brought there to buy beef [i.e., demand].

This proportion [or price] is settled by bargaining. The butcher sets his price according to the number of buyers he sees, while the buyers, on their side, offer less if they think the butcher will make fewer sales. The price set by some is usually followed by others. Some are cleverer in marketing their merchandise, others in discrediting them. This method of fixing market prices has no exact or geometrical foundation, since it often depends upon the eagerness or the abilities of a small number of buyers or sellers. However, it does not appear that it could be done in a more suitable way. It is clear that the quantity of products or merchandise offered for sale, proportioned to the demand or number of buyers, is the basis on which is fixed, or always assumed to be fixed, actual market prices. In general, these prices do not vary much from intrinsic value.

Let us take another case. Several hotel managers have been told at the beginning of the season to buy green peas. One owner has ordered the purchase of 10 quarts for 60 livres, another 10 quarts for 50 livres, a third 10 quarts for 40 livres, and a fourth 10 quarts for 30 livres. If these orders are to be carried out, there must be 40 quarts of green peas in the market. Suppose there are only 20. The sellers, seeing many buyers, will keep up their prices, and the buyers will come up to the prices asked, so that those who offer 60 livres for 10 quarts will be the first served. The sellers, seeing later that no one will go above 50, will let the other 10 quarts go at that price. Those who had orders not to exceed 40 and 30 livres will go away empty handed.

If instead of 40 quarts there were 400, not only would the hotel managers get the green peas much below the sums laid down for them, but the sellers, in order to be preferred over the others by the few buyers, will lower their green peas almost to their intrinsic value, and in that case, many managers who had no orders will buy some.

It often happens that sellers, who are too stubborn in keeping up their price in the market, miss the opportunity of selling their products or merchandise to their advantage and are thereby losers. It also happens that by sticking to their prices, they may be able to sell more profitably another day.

Distant markets can always affect the prices of local markets: if wheat is extremely expensive in France, its price will increase in England and in other neighboring countries.

# Chapter Three

## The Circulation of Money

**Abstract:** Farm production produces three rents, one of which sustains the farm workers, while the other two can be sold at wholesale to entrepreneurs who in turn provide property owners and farmers with goods and merchandise. This is the circular flow model of the economy. Money facilitates the flow and timing of rent payments (i.e., "velocity") and the rate of the monetary flow determines the ratio between the quantity of money and the value of annual production. This model is then used to explain the implications of international trade.

IT IS THE GENERAL OPINION in England that a farmer must make three rents. The first is the principal and true rent that he pays to the property owner, which is assumed to be equal in value to one-third of the farm's output. A second rent goes for his maintenance and that of the men and horses he employs to operate the farm, and a third rent that he keeps for making the business profitable.

The same idea generally is the norm in other countries of Europe, though in some states, like Milan, the farmer gives up half the product instead of a third. It is also true that many landlords in all countries try to lease their farms at the highest price they can; but when it is above one-third of the product, the farmers generally are very poor. I do not doubt that the Chinese landowner extracts from his farmer more than three-fourths of the product of the land.

However, when a farmer has some capital to carry on the management of this farm, the owner who leases him the farm for one-third of the

product will be sure of payment and will be better off by such a deal than if he leases his land at a higher rate to a poor farmer and faces the risk of losing all his rental income. The larger the farm, the better off the farmer will be. This is seen in England where farmers are generally more prosperous than in other countries where farms are small.

The assumption I shall make in this inquiry of the circulation of money is that farmers earn three rents and they spend the third rent to live more comfortably, instead of saving it. This is indeed the case with most farmers in all countries.

All the products in the state come directly or indirectly from the hands of the farmers, as well as all the materials from which commodities are made. The land produces everything but fish, and even then, the fishermen who catch the fish must be maintained by the products of the land.

The three rents of the farmer must therefore be considered the principal sources or, so to speak, the mainspring of circulation in the state. The first rent must be paid to the property owner in cash. For the second and third rents, cash is needed for the iron, tin, copper, salt, sugar, cloth, and generally all the products from the city that are consumed in the countryside. However, all that hardly exceeds one-sixth of the total of the three rents. As for the food and drink of the country folks, cash is not always necessary to obtain them.

The farmer may brew his beer or make his wine without spending money. He can make his bread, slaughter the oxen, sheep, pigs, etc., that are eaten in the country. He can pay most of his assistants in wheat, meat, and drink, not only laborers, but country artisans as well, by valuing products at the prices of the nearest markets, and labor at local wage rates.

The things necessary to life are food, clothing, and housing. There is no need for cash to obtain food in the country, as I have just explained. If coarse linen and cloths are made there[70] and if houses are built there, as is often the case, the labor may be paid in barter by valuation without cash being needed.

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[70] In Cantillon's example of the opportunity cost of an apprenticeship, he included the cost of clothing the apprentice because children on the farm contributed much to the production of their homespun clothing, while the apprentice does not.

The only cash needed in the countryside is for the rent payment to the property owner and for the goods obtained from the city, such as knives, scissors, pins, needles, cloths for some farmers or other well-to-do people, kitchen utensils, plates, and generally all that is obtained from the city for use in the countryside.

I have already noted that it has been estimated that half the inhabitants of a state live in the cities, and that consequently, those who live in the city consume more than half the production of the land. Cash is therefore necessary, not only for the rent payment to the owner, corresponding to one-third of the product of the land, but also for the city merchandise consumed in the country, which may amount to something more than one-sixth of the product of the soil. However, one-third and one-sixth amount to half the product. The cash circulating in the country must therefore be equal to at least one-half the product of the land, while the other half, or somewhat less, may be consumed in the country without need for cash.

The circulation of this money takes place when the property owners spend the rents they collected in lump sums from the farmers on retail purchases in the city. The entrepreneurs of the cities (e.g., butchers, bakers, brewers, etc.) then collect this same money, little by little, in order to buy goods from the farmers, such as cattle, wheat, barley, etc. In this way, all the large sums of money are distributed in small amounts, and all the small amounts are then collected to make payments in large amounts, directly or indirectly, to the farmers. Therefore this money serves both in wholesale and retail.

When I stated that the necessary quantity of money for circulation in the countryside is often equal to half the product of the land, this is the minimum. For the circulation in the countryside to be easily conducted, I will suppose that the cash needed is equal in value to two-thirds of the farmers' income, or two-thirds of the product of the land. It will be seen later that this assumption is not far from the truth.

Let us now imagine that the money conducting the whole circulation in a small state is equal to 10,000 ounces of silver, and that all the payments made with this money, country to city, and city to country, are made once a year. In addition, these 10,000 ounces of silver are equal in value to two of the farmers' rents, or two-thirds of the product of the land. The rents collected by the property owners will correspond to 5,000 ounces, and the

whole circulation of the remaining silver between the people of the countryside and those of the city, made by annual payments, also will correspond to 5,000 ounces.

However, if the owners stipulate that their farmers make payments every six months instead of once a year, and if the other debtors also make their payments every six months, this will alter the pace of circulation. While 10,000 ounces were needed to make the annual payments, only 5,000 will now be required because 5,000 ounces paid twice over will have the same effect as 10,000 ounces paid once.

Furthermore, if the owners stipulate that their farmers make quarterly payments, or if they are satisfied to receive payments from the farmers as the four seasons enable them to sell their products, and if all other payments are made quarterly, only 2,500 ounces will be needed for the same circulation that would have required 10,000 ounces paid annually. Therefore, supposing that all payments are made quarterly in the small state in question, the proportion of the value of the money needed for the circulation is to the annual product of the soil (or the three rents), as 2,500 livres is to 15,000 livres, or 1 to 6, so that money would correspond to a one-sixth of the annual production.

However, considering that each branch of the circulation [i.e., the economy] in the cities is carried out by entrepreneurs, and that the consumption of food is paid for daily, weekly, or monthly, and that clothing purchased once or twice a year by families is paid for at different times by different people; and considering also that the expenditure on beverages is usually made daily, and that payment for beer, coal, and a thousand other articles of consumption is very prompt, then it would seem that the proportion we have established for quarterly payments would be too high and that the circulation of products estimated at 15,000 ounces of silver in value could be conducted with much less than 2,500 ounces of silver coins.

However, because farmers have to make large payments to the owners at least every quarter and that the taxes collected by the prince or the State upon consumption goods are accumulated by the tax collectors to make large payments to the Receivers-General, there must be enough cash in circulation to make these large payments without difficulty, and without hindering the circulation of currencies for the food and clothing of the people.

It will be understood from this that the proportion of the amount of money needed for circulation in a state is not incomprehensible, and that this amount may be greater or less in a state depending on the mode of living and the speed of payments. It is very difficult to lay down anything definite about this quantity in general, as the proportion may vary in different countries. Therefore, it is only conjectural when I say that generally, "the cash or money necessary to carry on the circulation and exchange in a state is roughly equal in value to one-third of all the owners' annual rents of the said state."

Whether money is scarce or plentiful in a state, this proportion will not change much, because where money is abundant, land is leased at higher rates and at lower rates where money is scarce. This rule will always be true, at all times. In states where money is scarcer, there usually is more barter by valuation, than in those where money is plentiful, and circulation is more prompt and less sluggish than in those where money is not so scarce. Thus it is always necessary, when estimating the amount of money in circulation, to take into account the speed of its circulation.

Assuming that the money in circulation is equal to one-third of all the owners' rents and that these rents equal to one-third of the annual product of the land, it follows that "the money circulating in a state is equal in value to the one-ninth of all the annual product of the land."

Sir William Petty, in a 1685 manuscript, frequently assumes that the money in circulation is equal to one-tenth of the product of the land without explaining his reasoning. I believe he formed this opinion from experience and from his practical knowledge of both the money circulating in Ireland (a country he had measured as a surveyor) and of production, which he estimated from observation. I am not far removed from his idea, however, I chose to compare the money circulating to the owners' rents, which are ordinarily paid in cash and easily ascertainable by a uniform land tax, rather than to the products of the land because of their daily price variations in the markets, and the fact that a large part of the product is consumed without ever entering the markets. In the next chapter, I shall give several reasons, supported by examples, to strengthen my conclusion. I think this rule is useful, even if it is not mathematically exact in any country. It is sufficient if it is near the truth and if it prevents governors of states from forming extravagant ideas about the amount of money in circulation. There is no branch of knowledge in which one is more subject to error

than statistics when they are based on one's imagination, and none is more informative when they are based upon detailed facts.

Some cities and states, which have no land to call their own, subsist by exchanging their labor and manufactured goods for the products of other lands. For example, in Hamburg, Dantzig, several other cities of the Empire, and even part of Holland, it seems more difficult to estimate the amount of cash in circulation. However, if we could estimate the amount of foreign land used for their subsistence, the calculation would probably not differ from the one I made for the other states that chiefly subsist on their own products, and which are the subject of this essay.

As to the cash needed to carry on foreign trade, it seems that no more is required than what is in circulation in the state when the balance of foreign trade is equal, that is when the products and merchandise sent abroad are equal in value to those imported.

If France sends cloth to Holland and receives spices of equal value in return, the property owner who consumes these spices pays their value to the grocer, who pays the same amount to the cloth maker, to whom the same amount is due in Holland for the cloth he sent there. This is done using bills of exchange, which I will explain later. These two payments take place in France, unconnected to the rent of the property owner, and no money leaves France because of these transactions. All other classes of society consuming Dutch spices similarly pay the grocer. Those living on the first rent, that is the property owners, pay from this rent, and those who live on the other two rents, in the country or the city, pay the grocer, directly or indirectly, out of the money that conducts the circulation of these rents. The grocer again pays this money to the manufacturer in Holland for his bill of exchange and when the balance is equal, no increase of money is needed for circulation in the state due to foreign trade. But if it is not equal, if more merchandise is sold to Holland than is bought back, or vice versa, money is needed for the surplus that Holland must send to France or France to Holland. This will increase or diminish the amount of money circulating in France.

It may even occur that when the balance with the foreigner is equal to the trade with him, commerce with this foreigner may slow down the circulation of currencies, and consequently, a greater quantity of money is required because of this commerce.

For example, if the French ladies who wear French fabrics wish to wear Dutch velvets paid for by the cloth sent to Holland, they will buy these velvets from the merchants who imported them from Holland, and these merchants will pay the cloth manufacturers. The money thus passes through more hands than if these ladies took their money to the cloth manufacturers and contented themselves with French fabrics. When the same money passes through the hands of several entrepreneurs, the rapidity of circulation is slowed down. But it is difficult to make an exact estimate of this sort of delay, which depends upon various circumstances. Thus, in the present example, if the ladies pay the merchant for the velvet today, and the merchant pays his bill with the manufacturer in Holland tomorrow, and if the manufacturer pays the wool merchant the next day, and this last pays the farmer the day after, it is possible that the farmer will keep the money in hand more than two months to make up the quarter's rent he owes to his landlord. This money might, in two months, have circulated through the hands of a hundred entrepreneurs without slowing down the circulation needed in the state.

After all, we must consider the rent collected by the property owner as the most necessary and considerable part of the money in circulation. If the owner lives in the city and the farmer sells all his production and buys all the goods needed in the country in the same city, the money may always remain in the city. The farmer will sell products there exceeding half the output of his farm and will pay his landlord the money value of one-third of his product and the rest to merchants or entrepreneurs for goods to be consumed in the country. Even here, however, as the farmer sells his products for lump sums, which are subsequently distributed in retail purchases, and are again collected to serve for lump payments to the farmers, the circulation always has the same effect (subject to its rapidity) as if the farmer took the money received for his products to the country, and sent it back again to the city.

The circulation always consists of the large sums, received by the farmer for his products, being distributed at retail, and being brought together again to make large payments. Whether part of this money leaves the city, or remains there entirely, may be regarded as the circulation between city and country. All the circulation takes place between the inhabitants of the state, and they are all fed and maintained in any event from the product of the land and raw materials of the country.

It is true that the wool, for example, which is brought from the country, is worth four times its former value when made up into cloth in the city. However, this increase of value, which is the price of the workmen's labor and manufactures in the city, is again exchanged for the country products that serve for the laborer's maintenance.

# Chapter Four

## Further Reflection on the Rapidity or Slowness of the Circulation of Money in Exchange

**Abstract:** Large transactions can be accomplished with the use of bills of exchange or barter, which reduces the demand for money. Ordinary transactions by people require actual coin money in circulation. A variety of factors, therefore, affect the flow of money in circulation and this in turn affects the amount of money in circulation.

LET US ASSUME THAT THE FARMER pays 1,300 ounces of silver every quarter to the property owner, who pays, every week, 100 ounces to the baker, butcher, etc., and that these, in turn, pay the farmer 100 ounces every week, so that the farmer collects every week as much money as the property owner spends. In this case there will be only 100 ounces in constant circulation; the other 1,200 ounces will remain held partly by the property owner and partly by the farmer.

However, it rarely happens that the property owners spend their rents in a fixed and regular proportion. In London, as soon as a property owner receives his rent, he deposits most of it with a goldsmith or banker, who lends it at interest, so that this part is in circulation. Or else the property owner spends a large part of it on the many things he needs for his household. He may even borrow money before he gets his next quarter's rent. Thus the money of the first quarter's rent will circulate in a thousand ways before it is accumulated by the farmer to make his second-quarter payment.

When it comes time to pay the second quarter rent, the farmer will sell his products in large amounts. Those who buy his cattle, wheat, hay, etc., will already have collected the price of these goods from their retail sales. Thus, the money of the first quarter will have circulated in the retail trade for nearly three months before being collected by the retail dealers, and given to the farmer who will use it to make his second-quarter payment. It would seem from this that less money would suffice for the circulation in a state than we have assumed.

Barter does not require much cash because goods can be evaluated at the market price on the day of delivery. If a brewer supplies a tailor with beer for his family, and if the tailor in turn supplies the brewer with the clothes he needs, the only cash needed between these two traders is the amount of the difference between the two transactions.

If a merchant in a market town sends commodities to an entrepreneur in the city, and in return the entrepreneur sends the merchant products from the city to be consumed in the country, throughout the year, business between these two dealers and mutual confidence leads them to account for their commodities and merchandise at their respective market prices, and the only money needed for this commerce will be the balance that one owes to the other at the end of the year. Even then, this balance may be carried forward to the next year, without the actual payment of any money. All the entrepreneurs of a city who continually do business with each other may practice this method. Barter exchange by valuation does seem to reduce the cash in circulation, or at least to accelerate its movement by making it unnecessary when people have confidence in each other and can use this method of exchange by valuation. It is not without reason, as is commonly said, that trust in commerce makes money less scarce.

Goldsmiths and bankers, whose tickets[71] serve as payment like coin money, also add to the speed of circulation, which would be retarded if money was required for payments where tickets now suffice. And although these goldsmiths and bankers always keep on hand a large part of the coin money they have received for their tickets, they also put into circulation a

[71] Goldsmiths issued warehouse receipts for gold deposited with them while bankers issued banknotes. These were the paper money of the time, but both represented a legal claim for gold and they were typically accepted as payment if the issuers were considered trustworthy.

considerable amount of this effective money, as I shall explain later when dealing with public banks.

All these reflections seem to prove that the circulation in a state could be conducted with much less coin money than what I previously assumed was necessary. However, the following inductions appear to counterbalance them and to contribute to the slowing down of circulation.

I will first observe that all commodities are produced by labor that may possibly—strictly speaking—be carried on with little or no actual money, as I have often suggested. But the workers who make goods in cities or market towns must be paid in coin money. If a house has cost 100,000 ounces of silver to build, all this sum or most of it, must have been paid in small amounts on a weekly basis to the brick maker, masons, carpenters, etc., directly or indirectly. The expenditures of small families, which are always more numerous in cities, must be made with coin money. With such small purchases, credit, barter, and tickets, like banknotes do not work. Merchants and entrepreneurs demand cash for the things they supply, and if they give credit to a family for a few days or months, they require a substantial down payment. A wagon builder, who sells a wagon for 400 ounces of silver in notes, will have to convert them into coin money to pay for all the materials and the men who have worked on the wagon if they have worked on credit. If he has paid them already, the money will be used to pay them to start working on a new one. The sale of the wagon will leave him the profit of his enterprise and he will spend this profit to maintain his family. He could not be satisfied with notes, unless he can afford to put something aside or deposit it to earn interest.

The consumption of the inhabitants of a state is, in a sense, entirely for food. Lodging, clothing, furniture, etc., correspond to the food of the men who have worked upon them, and in the cities, all beverages and food are necessarily paid for in coin money. In the families of landowners, who live in the city, food is paid for every day or every week. In their families, wine is paid for every week or every month; hats, stockings, shoes, etc. are ordinarily paid for in coin money, at least the payments correspond to cash for the men who have worked upon them. All the sums used to make large payments are divided, distributed, and spread in small payments corresponding to the maintenance of the workmen, servants, etc., and all these sums are necessarily collected and reunited by the entrepreneurs and retailers, who are employed in providing the subsistence of the

inhabitants, to make large payments when they buy commodities from the farmers. An alehouse keeper collects by sols and livres the sums he pays to the brewer, who uses them to pay for all the grain and materials he buys from the country. One cannot imagine that anything could be purchased for cash in a state, like furniture, merchandise, etc., at a value that does not correspond to the maintenance of those who have produced it.

Circulation in the cities is carried out by entrepreneurs and always corresponds, directly or indirectly, to the subsistence of the servants, workmen, etc. It is inconceivable that the circulation in small retail businesses could be conducted without cash. Notes may serve as counters in large payments for a certain time, but when the large sums come to be distributed and spread into small transactions, as is always the case sooner or later in the course of circulation in a city, notes cannot serve this purpose and cash is needed.

All this presupposes that all the classes in a state who practice some economy, save and keep out of circulation small amounts of cash until they have enough to invest at interest or profit.

Many miserly and timid people will bury and hoard cash for considerable periods of time.

Many property owners, entrepreneurs and others, always keep some cash in their pockets or safes so that they do not run out of money and to protect them against unforeseen emergencies. If a gentleman says that he never had less than 20 louis[72] in his pocket throughout the whole year, it may be said that this pocket has kept 20 louis out of circulation for a year. No one likes to spend to their last penny or to be completely without money. People like to receive a new payment before paying debt, even if they have the money.

The funds of minors and of litigants are often deposited in cash and kept out of circulation.

Beside the large quarterly payments that pass through the hands of the farmers, there are wholesale transactions between entrepreneurs and payments from borrowers to lenders that occur at different times. All these sums are collected in the retail trade, are dispersed again, only to come back to the farmer sooner or later. However, they would seem to require

[72] A French gold coin.

a larger amount of cash for circulation than if these large payments were made at times different from those when the farmers are paid for their commodities.

In conclusion, there is such a great a variety in the organization of the inhabitants in the state, and in the corresponding circulation of coin money, that it seems impossible to lay down anything precise or exact about the proportion of money sufficient for circulation. I have produced so many examples and inductions which make it clear that I am not far from the truth in my conclusion "that the actual money necessary for the circulation of the state corresponds nearly to the value of the third of all the annual rents of the property owners." When the owners have a rent that amounts to half the production, or more than a third, a greater quantity of coin money is needed for circulation, other things being equal. When there is great confidence in the banks and in book credits, or when the speed of circulation is accelerated in any way, less money will suffice. However, I shall show later that public banks do not bring as many advantages as is usually assumed.

# Chapter Five

## On the Inequality of the Circulation of Money in a State

**Abstract:** Rural France was impoverished because commodities had to be sent to the capital and major cities to pay taxes to the state and rents to the property owners living there. It is argued here that if factories were permitted in rural areas, basic commodities could be turned into goods, which could then be sent to the cities at a much lower transport cost. This would save resources in transportation and benefit both rural populations and property owners.

THE CITY ALWAYS SUPPLIES various goods to the country, and the property owners who reside in the city should always receive about one-third of the production of their land. The country thus owes to the city more than half the production of the land. This debt would always exceed one-half if all property owners lived in the city, but because most owners with less significant land holdings live in the country, I suppose that the balance or debt, which continually returns from the country to the city, is equal to half the production of the land and is paid to the city with half of the commodities transported from the countryside and sold to pay this debt.

The countryside of a state or kingdom owes a constant balance to the capital to pay rents to the great property owners who reside there, and to pay taxes to the State or crown, most of which are spent in the capital. All the provincial cities owe a constant balance to the capital, for the State's property and consumption taxes, and for the different goods that

they obtain from the capital. It is also the case that several individuals and property owners, who live in the provincial cities, will spend some time in the capital for pleasure, or for the judgment of their lawsuits in final appeal, or because they send their children there for an elite education. Consequently, all these expenses incurred in the capital are drawn from the provincial cities.

It may therefore be said that all the countryside and cities of a state regularly owe an annual balance or debt to the capital. However, because such payments are made in money, it is clear that the provinces always owe considerable sums to the capital. The products and commodities that the provinces send to the capital are sold to pay for these debts and balances.

Now assume that the circulation of money in the provinces and in the capital is equal both in terms of the quantity of money and the speed of circulation. The balance will be first sent to the capital in cash and this will decrease the quantity of money in the provinces and increase it in the capital. Consequently, products and goods will be more expensive in the capital than in the provinces because of the greater abundance of money in the capital. The difference between the prices in the capital and the provinces must pay for the costs and risks of transport, otherwise cash will be sent to the capital to pay the balance and this will continue until the differences in prices between the capital and the provinces cover the costs and risks of transport. Then the merchants and entrepreneurs of the market towns will buy the products of the villages at a low price and will have them transported to the capital to be sold at a higher price. This difference in price will of necessity pay for the maintenance of the horses and employees of the entrepreneur, plus profit, or else he would cease his enterprise.

As a result, the price of farm products of equal quality will always be higher in areas that are closer to the capital than in those more distant in proportion to the costs and risks of transport. In addition, areas that are adjacent to seas and rivers flowing into the capital will get a better price for their products relative to those which are distant (other things being equal), because water transport is considerably less expensive than land transport. On the other hand, there are certain foods and goods that cannot be consumed in the capital because they are not suitable or cannot be sent there on account of their bulk, or because they would be spoiled on the way. These will be infinitely cheaper in the country and distant provinces

than in the capital, because of the much smaller amount of money in circulation in the distant provinces.

Therefore fresh eggs, game, fresh butter, firewood, etc., will generally be much cheaper in the province of Poitou,[73] while wheat, cattle and horses will be more expensive in Paris, the difference being the cost and risk of transport, and the fees for entering the city.

It would be easy to make an infinite number of inductions of the same kind to justify by experience the necessity of an inequality in the circulation of money in the different provinces of a great state or kingdom, and to show that this inequality is always relative to the balance or debt, which belongs to the capital.

If we assume that the balance owed to the capital amounts to one-fourth of the production of the land of all the provinces of the state, the best use that can be made of the land would be to employ the country bordering on the capital to produce the kinds of products which could not be drawn from distant provinces without much expense or deterioration. This is in fact what always takes place. The market prices in the capital regulate how the farmers employ the land for this or that purpose. They use the closest lands, when suitable, for market gardens, pasture, etc.

Therefore, when possible, factories for cloth, linen, lace, etc., ought to be set up in remote provinces and factories to make tools of iron, tin, copper, etc., should be located in the neighborhood of coal mines or forests, which are otherwise useless because of their distance. In this way, finished manufactured goods could be sent to the capital with much lower transportation cost than by sending the raw materials to be manufactured in the capital, as well as the subsistence of the artisans who manufacture them. This would save a large quantity of horses and transport workers who could be better employed for the benefit of the state. The land could serve to maintain the nearby workmen and useful artisans and a multitude of horses could be saved that are now used for unnecessary transportation. In this way, the remote areas would yield higher rents to property owners and the inequality of circulation between the provinces and the capital would be considerably less and better proportioned.

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[73] A province in southwestern France, just north of Bordeaux.

Nevertheless, to set up manufacturing in this way requires not only much encouragement and capital funds, but also some way to ensure a regular and constant demand, either in the capital itself or in foreign countries. Exports to foreign countries serve the capital by either paying for the goods it imports, or with the money it gets in return.

When these factories are established, perfection is not attained immediately. If some other province produces the goods better or cheaper, or has an advantage in transportation costs because it is closer to the capital or can resort to river and sea transportation, the new manufactures will not succeed. All these circumstances have to be considered when setting up a factory. My intention in this essay is not to explain these issues, but only to suggest that so far as practicable, significant manufacturing should be set up in provinces far from the capital to produce a less unequal distribution of money between rural areas and the capital.[74]

For when a distant province has no factories and produces only ordinary foodstuffs and is without water communication to the capital or the ocean, it is surprising how scarce money is compared to that which circulates in the capital, and how little revenue the prince and the property owners who reside in the capital receive from even their best lands.

The wines of Provence and Languedoc[75] that are sent to the north, must be sent on the long and difficult route around the Straits of Gibraltar and after having passed through the hands of several entrepreneurs, yield very little to the property owners living in Paris.

However, these distant provinces must send their commodities to the capital or elsewhere (either within the state or to foreign countries), despite all the disadvantages of transport and distance, in order to pay the balance owed to the capital. If there were rural factories to pay this balance, the commodities would be mostly consumed locally and in that case, the rural population would be much larger.

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[74] Advocating rural manufacturing is usually considered a mercantilist or interventionist policy and this passage has been used to label Cantillon a mercantilist. However, under the French mercantilist regulatory regime, factories in the capital and cities were given monopolies and were tightly regulated. These rules and regulations made it virtually impossible to set up substantial manufacturing in rural areas. People in rural areas made their own cloths but were largely prohibited from manufacturing clothing for sale in the cities and capital.

[75] Two provinces in Southern France on the Mediterranian Sea

When a province pays its balance only with commodities that yield little in the capital because of transport costs, it is clear that the property owners living in the capital give up the production of a large amount of land in the country to receive little in the capital. This arises from the inequality of money, and this inequality results from the constant balance owed to the capital by the province.

Currently, if a state or kingdom supplies foreign countries with goods from its own factories and does enough of this commerce to draw in a constant balance of money from abroad every year, money will be more plentiful and the circulation will become more substantial than in foreign countries, and consequently, land and labor will gradually command a higher price. It therefore follows that in all the branches of commerce, this state will exchange a smaller amount of land and labor with the foreigner for a larger amount, so long as these circumstances continue.[76]

But if a foreigner resides in the state in question, he will be in roughly the same situation and circumstances as the citizen of Paris who owns land in distant provinces.

Beginning in 1646,[77] factories for making cloth and other goods were built in France and it appeared to trade, at least in part, in the way I described. Since the decay of France, England has taken possession of this trade, and all states appear to flourish by it to a larger or lesser extent. The inequality of the circulation of money in the different states represents the inequality of their comparative power, other things being equal, and this inequality of circulation is always related to the balance of foreign trade.[78]

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[76] The mercantilists argued for a positive balance of trade as well, but as Cantillon explains, the actual advantages of a positive balance of trade—here in terms of the "terms of trade argument"—happen only under certain economic conditions and cannot last indefinitely.

[77] This date marks the beginning of a period of tolerance in France for the Huguenots who were heavily involved in the textile industry.

[78] This again appears to be a mercantilist-like statement. However, Cantillon is referring to the Huguenots and their role in textile manufacturing. During the second quarter of the 17th century, Protestantism was tolerated in France and the Huguenots launched the cotton textile business. Around 1660, King Louis VIX's minister Colbert launched government factories in Paris and other cities drawing in artisans from around France. Subsequently, there was more intolerance of the Huguenots and in 1685, Protestantism was banned as was the production of cotton textiles. Most Hugonots converted nominally to Catholicism, but the factory owners took their skills and whatever capital they could and emigrated, mostly to England.

It is easy to judge from what has been said in this chapter that the assessment of taxes by the royal tithe, as suggested by Mr. de Vauban, would be neither advantageous, nor practicable. If taxes on land were levied in money, in proportion to the rents of the property owners, it would be fairer. But I must not stray from my subject to show the inconveniences and impossibility of Mr. de Vauban's proposal.[79]

[79] Sebastien de Vauban was an engineer and Marshall in the French military who built fortification and developed a successful system of seige warfare and he could be also considered the grandfather of the French civil engineering tradition. Interestingly, he was a vocal opponent on economic grounds of the repeal of the edict of Nantes and the subsequent persecution of the Hugonots. In 1707, he wrote *Projet d'une dixme royale qui, supprimant la taille, les aydes, les doüanes d'une province à l'autre, les décimes du Clergé, les affaires extraordinaires... produiroit au Roy un revenu certain et suffisant* where he called for a 10% tax on all land and trade. Cantillon is probably correct to suggest that a single tax on land rents would be more economical and fairer. Presumably he is thinking that a tax on trade would decrease "circulation" and reduce France's relative power.

# Chapter Six

## The Increase and Decrease of the Quantity of Money in a State

**Abstract:** Here Cantillon uses his price-specie flow mechanism to analyze some of the effects of inflation. Increasing the supply of money by mining hurts some people and benefits others because certain prices and incomes rise faster than others. However, if the new money is accumulated and saved by those who successfully export goods, either because of superior quality or more efficient transportation, it will lead to higher standards of living.

If gold or silver mines were found in a state, and considerable quantities of minerals were extracted from them, the owners of these mines, the entrepreneurs, and all those who work there, will increase their expenditures in proportion to the wealth and profit they make. They will also lend the money they have over and above what they need for their expenses and earn interest.

All this money, whether lent or spent, will enter into circulation and will not fail to raise the price of commodities and goods in all the channels of circulation it enters. Increased money will bring about increased expenditure, and this will cause an increase of market prices in the good years and to a lesser degree in bad years.

Everybody agrees that the abundance of money, or an increase in its use in exchange, raises the price of everything. This truth is substantiated

in experience by the quantity of money brought to Europe from America for the last two centuries.[80]

Mr. Locke lays it down as a fundamental maxim that the quantity of goods in proportion to the quantity of money is a regulator of market prices. I have tried to elucidate his idea in the preceding chapters: he has clearly seen that the abundance of money makes everything more expensive, but he has not considered how this happens. The great difficulty of this question consists in knowing in what way and in what proportion the increase of money raises the price of things.

I have already noted that acceleration or a greater pace in the circulation of money in exchange, is equivalent to, to a certain degree, an increase of actual money. I have also noted that an increase or decrease of prices in a distant market, domestic or foreign, influences the local market prices. On the other hand, money flows through so many retail channels that it seems impossible not to lose sight of it, seeing that having been amassed to make large sums, it is distributed in small amounts in exchange, and then gradually accumulated again to make large payments. For these operations, it is necessary to constantly exchange between gold, silver and copper money, according to the requirements of exchange. It is also usually the case that the increase or decrease of hard money in a state is not perceived because it comes into a state from foreign countries by such imperceptible means and proportions that it is impossible to know exactly the quantity which enters or leaves the state.

However, all these operations happen before our eyes and everybody takes a direct part in them. I therefore venture to offer a few observations on the subject, even though I may not be able to give an exact and precise account.

In general, an increase of hard money in a state will cause a corresponding increase in consumption and this will gradually produce increased prices.

If the increase of hard money comes from gold and silver mines within the state, the owner of these mines, the entrepreneurs, the smelters, refiners, and all the other workers will increase their expenses in proportion to

[80] Cantillon refers here to the Spanish Conquests in the Americas and the fact that they took tons of gold and silver back to Spain during the 1500s and 1600s. These imports resulted in substantially higher prices throughout Europe.

their profits. Their households will consume more meat, wine, or beer than before. They will become accustomed to wearing better clothes, having finer linens, and to having more ornate houses and other desirable goods. Consequently, they will give employment to several artisans who did not have that much work before and who, for the same reason, will increase their expenditures. All this increased expenditures on meat, wine, wool, etc., necessarily reduces the share of the other inhabitants in the state who do not participate at first in the wealth of the mines in question. The bargaining process of the market, with the demand for meat, wine, wool, etc., being stronger than usual, will not fail to increase their prices. These high prices will encourage farmers to employ more land to produce the following year, and these same farmers will profit from the increased prices and will increase their expenditure on their families like the others. Those who will suffer from these higher prices and increased consumption will be, first of all, the property owners, during the term of their leases, then their domestic servants and all the workmen or fixed wage earners who support their families on a salary. They all must diminish their expenditures in proportion to the new consumption, which will compel a large number of them to emigrate and to seek a living elsewhere. The property owners will dismiss many of them, and the rest will demand a wage increase in order to live as before. It is in this manner that a considerable increase of money from mines increases consumption and, by diminishing the number of inhabitants, greater expenditures result by those who remain.

If money continues to be extracted from the mines, the abundance of money will increase all prices to such a point that not only will the property owners raise their rents considerably when the leases expire and resume their old lifestyle, increasing their servants' wages proportionally, but the artisans and workmen will increase the prices of the articles they produce so high that there will be a considerable gains in buying them from foreigners who make them much cheaper. This will naturally encourage several people to import products at lower prices from foreign factories, and this will gradually ruin the artisans and manufacturers of the state who will be unable to sustain themselves by working at such low rates because of the high cost of living.

When the overabundance of money from the mines has diminished the number of inhabitants in a state, accustomed those who remain to excessive expenditures, raised the prices of farm products and the wages

for labor to high levels, and ruined the manufactures of the state by the purchase of foreign products by property owners and mine workers, the money produced by the mines will necessarily go abroad to pay for the imports. This will gradually impoverish the state and make it, in a way, dependent on foreigners to whom it is obliged to send money every year as it is extracted from the mines. The great circulation of money, which was widespread in the beginning, ceases; poverty and misery follow and the exploitation of the mines appears to be only advantageous to those employed in them and to the foreigners who profit thereby.

This is approximately what has happened to Spain since the discovery of the Indies.[81] As for the Portuguese, since the discovery of gold mines in Brazil, they have nearly always used foreign articles and manufactured goods; and it seems that they worked the mines only for the account and advantage of foreigners. All the gold and silver that these two states extract from the mines does not supply them with more precious metal in circulation than others. England and France usually have even more.

Now, if the increase of money in the state comes from a balance of foreign trade (i.e., from sending abroad articles and manufactured goods of greater value and quantity than is imported and consequently receiving the surplus in money), this annual increase of money will enrich a great number of merchants and entrepreneurs in the state, and will give employment to numerous artisans and workmen who provide the goods sent to the foreigner from whom money is drawn. This will gradually increase the consumption of these industrious inhabitants and will raise the price of land and labor. But the industrious people who are eager to acquire property will not at first increase their expenditures, They will wait until they have accumulated a large sum from which they can draw a secure interest income, independent of their occupation. Once a large number of inhabitants have acquired considerable fortunes from this money, which enters the state regularly and annually, they will not fail to increase their consumption and raise the price of everything. Although these higher prices result in greater expenditures than they at first contemplated, they will, for the most part, continue so long as their capital lasts, for nothing is easier or more pleasant than to increase the family expenditures, and nothing is more difficult or unpleasant than to decrease them.

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[81] Particularly Mexico and the Inca Empire in South America.

If an annual and continuous balance has caused a considerable increase of money in a state, it will not fail to increase consumption, raise the price of everything and even diminish the number of inhabitants, unless additional products are drawn from abroad proportionate to the increased consumption. Moreover, in states that have acquired a considerable abundance of money, it is natural to import many goods from neighboring countries where money is rare and consequently everything is cheap. However, as money must be exchanged for these products, the balance of trade will become smaller. The cheapness of land and labor in foreign countries where money is rare will naturally cause the building of factories and businesses similar to those of the state, but which will not, at first, be as perfect or as highly valued.

In this situation, the state can retain its abundance of money, consume all its own products and a great deal of foreign products and, over and above all this, maintain a small balance of trade against the foreigner or at least keep the balance leveled for many years. In other words, the state will import, in exchange for its commodities and manufactured goods, as much money from these foreign countries as it sends to them for the goods or products of the land it takes from them. If the state is a maritime state, the easiness and low cost of its shipping for the transport of its commodities and manufactured goods to foreign countries may compensate, in some way, for the high cost of labor caused by the overabundance of money. Therefore, the commodities and manufactured goods of this state, expensive though they may be, will continue to sell in foreign countries, and sometimes will be cheaper than the manufactured goods of another state where labor is paid less.

The cost of transport greatly increases the prices of goods sent to distant countries. However, these costs are very moderate in maritime states, where there is regular shipping to all foreign ports and ships are nearly always found there ready to sail, taking on board all cargoes entrusted to them at a very reasonable freight.

This is not so in states where navigation does not flourish. There, it is necessary to build ships especially for the transportation of goods and this sometimes absorbs all the profit; and transportation there is always very expensive, which entirely discourages commerce.

England today consumes not only most of its own small production, but also a large amount of foreign products, such as silks, wines, fruits, linens in great quantity, etc. Meanwhile, she sends abroad the products of her mines and manufactured goods, for the most part. No matter how expensive labor is due to the abundance of money, she does not fail to sell her products to distant countries, because of her maritime advantage, at prices as reasonable as those of France, where these same products are cheaper.

The increased quantity of money in a state may also be caused, without a balance of trade, by subsidies paid to this state by foreign powers, by the expenditures of several ambassadors or travelers wanting to stay there for political reasons, curiosity, or pleasure, or by the transfer of the property and wealth of families who choose to leave their country to seek religious freedom or for other reasons, and to settle down in this state. In all these cases, the sums entering the state always cause an increase in expenditures and consumption, and consequently increase the prices of all goods in the channels of exchange where money enters.[82]

Before the increase in the quantity of money, suppose that a quarter of the inhabitants of the state consume meat, wine, beer, etc., on a daily basis and frequently acquire clothes, linens, etc., but that after the increase, a third or half of the inhabitants consume these same things. Prices for these goods will increase and the high price of meat will convince several of those who formed the original quarter, to consume less meat than usual. A man who eats three pounds of meat daily will manage with two pounds, but he feels the reduction. Meanwhile, the other half of the inhabitants who hardly ate any meat at all will not feel the reduction. The price of bread will increase gradually because of increased consumption, as I have often suggested, but it will be proportionally less expensive than meat. The increase in the price of meat is noticeably felt because it causes a reduction in consumption on the part of a small portion of the people, but the increased price of bread is less noticeable because the decreased consumption is spread across the entire population. If 100,000 extra people move to a state with 10 millions inhabitants, their extra consumption of bread will amount to only one pound in 100, which must be subtracted from the old

[82] In Cantillon's time, many Irish Catholics left Ireland for France and Spain after Cromwell's Conquest during which half the population died due to war, disease, and famine. These emigrants lost their land, but did bring their money with them.

inhabitants. But when a man consumes 99 pounds of bread for his subsistence instead of 100, he hardly feels the reduction.

When the consumption of meat increases, farmers increase the size of their pastures to produce more meat, and this diminishes cropland, and consequently the amount of wheat produced. However, what generally causes meat to become proportionally more expensive than bread is that imports of foreign wheat are usually permitted while imports of beef are absolutely forbidden, as is the case in England, or heavy import duties are imposed as in other states. This is the reason why the rents for meadows and pastures rise in England, with the abundance of money, three times more than the rents of cropland.

There is no doubt that when ambassadors, travelers, and families move to a state, the increased consumption will cause higher prices in all the markets where they spend their money.

As for the subsidies the state has received from foreign powers, they are either hoarded for state necessities or are put into circulation. If we assume they are hoarded, they do not concern my argument for I am considering only money in circulation. Hoarded money, silverware, churches' money, etc., are resources that the state turns to in emergency situations, but are of no present utility. If the state puts these funds into circulation, it can only do so by spending them and this will certainly increase consumption and raise the price of all goods. Whoever receives this money will set it in motion the principal business of life—which is the food—either for himself or someone else, since everything is connected to this, directly or indirectly.

# Chapter Seven

## More on the Increase and Decrease in the Quantity of Money in a State

**Abstract:** When there is an increase in the quantity of money, prices will increase depending on how the new money holders decide to spend their money. The price changes will also be affected by such things as regulations on trade and the perishability of the products that are traded. In other words the simple quantity theory of money is naïve in proposing that a doubling of the quantity of money would double all prices equally. Changes in the quantity of money will change relative prices and have real effects on the economy, a phenomenon now known as the Cantillon Effects.

WHERE GOLD, SILVER, AND COPPER are extracted from the mines, they have an intrinsic value proportional to the land and labor that enter into their production. States that have no mines have the added cost of importing the metal. The quantity of money, like that of all other commodities, determines its value against all other goods in the bargaining process of the marketplace.

If England begins for the first time to make use of gold, silver, and copper in exchanges, money will be valued according to the quantity in circulation, proportionally to its power of exchange against all other merchandise and products. The bargaining process of the market will determine this estimation of value. On the basis of this estimation, the property owners and entrepreneurs will set the wages of their domestic servants and

workmen at so much a day or a year, so that they and their families may be able to live on the wages they receive.

Let us now assume that because of ambassadors and foreign travelers residing in England, as much money has been introduced into circulation as there was before [thereby doubling the quantity of money]. This money will pass first into the hands of various artisans, servants, entrepreneurs and others who have had a share in providing transportation, amusements, etc., for these foreigners. Manufacturers, farmers, and other entrepreneurs will feel the effect of the increased money, which will increase the expenditures of a great number of people, and this will in turn increase market prices. Even the children of these entrepreneurs and artisans will enter into new expenditures. With this abundance of money, their fathers will give them a little money for their petty pleasures and they will buy cakes and meat pies, etc. This new quantity of money will be distributed so that many who lived without using money before will now have some. Many exchanges, which used to be made on credit by valuation, will now be made with cash, and that will increase the pace of the circulation of money in England compared to before.

I conclude from all this that by doubling the quantity of money in a state, the prices of products and merchandise are not always doubled. The river, which runs and winds about in its bed, will not flow with double the speed when the amount of water is doubled.

The change in relative prices,[83] introduced by the increased quantity of money in the state, will depend on how this money is directed at consumption and circulation. No matter who obtains the new money, it will naturally increase consumption. However, this consumption will be greater or less, according to circumstances. It will more or less be directed to certain kinds of commodities or merchandise, according to the judgment of those who acquire the money. Market prices will increase more for certain goods than for others, however abundant the money may be. In England, the price of meat might triple, but the price of wheat might increase less than one fourth.

In England, it is still permitted to import wheat from foreign countries, but not cattle. For this reason, however great the increase of money

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[83] Cantillon used the phrase "proportion of the dearness," but he is clearly describing what we now refer to as the change in relative prices.

may be in England, the price of wheat can only be raised, above the price in other countries where money is scarce, by the cost and risks of importing wheat from these foreign countries.

It is not the same with the price of cattle, which will necessarily be proportioned to the quantity of money offered for meat, in relation to the quantity of meat and the number of cattle raised there.

An ox weighing 800 pounds sells in Poland and Hungary for two or three ounces of silver, but commonly sells in the London market for more than 40. Yet the bushel of flour does not sell in London for even double the price in Poland and Hungary.

An increase of money only increases the price of commodities and merchandise by the difference of the cost of transport, when this transport is allowed. But in many cases, transportation would cost more than the good is worth, therefore, for example, timber is useless in many places. This cost of transportation is also the reason why milk, fresh butter, lettuce, game, etc., are almost given away in the provinces distant from the capital.

I conclude that an increase of actual money in a state always causes an increase of consumption and a routine of greater expenditures. But the higher prices caused by this money does not affect all commodities and merchandise equally. Prices do not rise proportionally to the quantity of money, unless what has been added continues in the same circulation channels as before. In other words, those who offered one ounce of silver in the market would be the same and only ones to offer two ounces when the amount of money in circulation is doubled, and that is hardly ever the case. I recognize that when a large surplus of money is introduced in a state, the new money gives a new direction to consumption, and even a new speed to circulation. However, it is not possible to say exactly to what extent.[84]

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[84] Here, Cantillon has debunked the naïve Quantity Theory of Money which concludes that the real economy is unaffected by inflation.

# Chapter Eight

## Further Reflections on the Increase and Decrease of Money in a State

**Abstract:** Increases in the supply of money from a balance of trade eventually causes prices to rise. This in turn puts pressure on domestic producers and increases imports. The result is that the balance of trade is reduced and eventually is negative. This is Cantillon's price specie-flow mechanism which demonstrates the reasons for the tendency for equilibrium in international monetary flows. The balance of trade can result in economic power, but this also causes the economy to lapse into luxury and decline.

WE HAVE SEEN THAT THE QUANTITY of money circulating in a state may be increased by working its mines, by subsidies from foreign powers, by the immigration of foreign families, by the residence of ambassadors and travelers, but above all, by a regular and annual balance of trade, from supplying goods to foreigners, and by receiving from them at least part of the price in gold and silver. It is by this last means that a state grows most substantially, especially when its trade is accompanied and supported by ample shipping and by a significant output of the raw materials necessary for the production of exported manufactured goods.

However, the continuation of this commerce gradually introduces a great abundance of money and, little by little, increases consumption. Foreign products must be imported to meet this demand and must be paid for by a reduction in the annual balance of trade. On the other hand, increased expenditures increase the cost of labor and the prices of manufactured

goods. It often happens that some foreign countries try to set up the same kinds of factories for themselves, in which case they stop buying those of the state in question. Although these newly established factories and manufactures are not perfect at first, they reduce and even prevent the export of those goods from the neighboring state into their own country, where they can be acquired at a better price.

In this manner, the state begins to lose some branches of its profitable trade and many of its workmen and artisans who lose their jobs will leave the state to find employment in new foreign factories. In spite of this diminution in the balance of trade, the custom of importing various products will continue. If the manufactured products of a state have a great reputation and can be shipped to distant countries at low cost, the state will maintain its advantage over the new foreign manufacturers for many years and will maintain a small balance of trade, or at least keep it even. If, however, some other maritime state tries to perfect the same articles and its navigation at the same time, it will, because of the cheapness of its manufactures, take away several branches of trade from the state in question. Consequently, this state will begin to lose its balance of trade and will be forced to send a part of its money abroad every year in order to pay for its imports.

Moreover, even if the state in question could keep a balance of trade and its greater abundance of money, it is reasonable to suppose that this abundance will plunge many wealthy individuals into luxury. They will buy paintings, precious stones from abroad, they will want silks and rare objects, and they set such an example of luxury in the state that in spite of the advantage of its ordinary trade, its money will flow abroad annually to pay for this luxury. This will gradually impoverish the state and cause it to pass from great power to great weakness.

When a state has arrived at the highest point of wealth, and I always assume that the comparative wealth of states consists mainly in their respective quantities of money, it will inevitably fall back into poverty by the ordinary course of things. The too-great abundance of money, which gives power to states so long as it lasts, throws them back imperceptibly, but naturally, into poverty. Thus it would seem that when a state expands by trade, and the abundance of money raises the price of land and labor, the prince or the legislator ought to withdraw money from circulation, keep it for emergencies, and try to slow down its circulation by every means,

except compulsion and bad faith, to prevent its goods from becoming too expensive and avoid the drawbacks of luxury.

However, it is not easy to perceive the opportune time for this, or to know when money has become more abundant than it ought to be for the good and preservation of the advantages of the state. Therefore, princes and heads of republics do not concern themselves much with this sort of knowledge and strive only to make use of the abundance of their state revenues, to extend their power and to insult other countries on the most frivolous pretexts. All things considered, working to perpetuate the glory of their reigns and administration and to leaving monuments of their power and wealth is perhaps the best they can do because according to the natural course of humanity, the state must collapse on its own, they only accelerate its fall a little. Nevertheless, it seems that they should try to make their power last during the time of their own administration.

Few years are needed to raise abundance to the highest point in a state, however still fewer are needed to bring it to poverty for lack of commerce and manufacturing. Without speaking of the rise and fall of the Venice Republic, Hanseatic cities,[85] Flanders and Brabant, the Dutch Republic, etc., who have succeeded each other in profitable branches of trade, one may say that France's power has only been on the rise from 1646 (when factories were established to produce clothing which had previously been imported) to 1684 when a number of Protestant entrepreneurs and artisans were driven out of France.[86] That kingdom has done nothing but recede since this last date.

I know no better measure than the leases and rents of property owners to judge the abundance and scarcity of money in circulation. When land is leased at high rates, it is a sign that there is plenty of money in the state; but when land has to be leased at much lower rates, it shows, other things being equal, that money is scarce. I have read in *The State of France*[87] that

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[85] The Hanseatic League was an association of several independent cities of northern Europe.

[86] Cantillon is here referring to the explusion of the Huguenots, who dominated the cotton clothing business and which was relinquished to Indian imports.

[87] Pierre le Pesant, sieur de Boisguilbert or Boisguillebert (17 February 1646 - 10 October 1714) In 1695, Boisguilbert published *Le Detail de la France; la cause de la diminution de ses biens, et la facilité du remède* in which he described the economic ruination of France caused by merchantilist economic policy. He was an antimercantilist who blamed the country's problems on its fiscal policy, while Cantillon was a antimercantist who blamed France's economic decline on both fiscal and monetary policies.

acres of vineyard near Mantes—not far from the French capital—which leased for 200 livres tournois[88] of full weight in 1660, only leased for 100 livres tournois of lighter money in 1700. However, the silver brought from the West Indies in the interval should naturally have raised the price of land in Europe.

The author [of *The State of France*] attributes this fall in rent to defective consumption. In fact, it seems that he observed a reduction in wine consumption. However, I think he has mistaken the effect for the cause. The cause was a greater rarity of money in France, and the effect of this was naturally a decrease in consumption. In this essay, I have always suggested, on the contrary, that an abundance of money naturally increases consumption and contributes above everything else to a higher valuation of the land. When abundant money raises products to honest prices, the inhabitants eagerly work to acquire them; although they do not show the same eagerness to acquire food and merchandise beyond what is needed for their maintenance.

It is clear that a state with more money in circulation than its neighbors has an advantage over them, so long as it maintains this abundance of money.[89]

In the first place, given that the price of land and labor are calculated in terms of money, the state where money is most abundant will give up less land and labor than it receives in all areas of trade. Thus the state in question sometimes receives the product of two acres of land in exchange for that of one acre, and the work of two men for that of only one. It is because of this abundance of money in circulation in London that the work of one English embroiderer costs more than that of 10 Chinese embroiderers, though the Chinese embroider much better and turn out more work in a day. In Europe, people are amazed that these people can live by working so cheap and that the wonderful fabrics they send us cost so little.

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[88] Livres tournois were coins made in Tours which were made of ⅕ less silver than livres made in Paris. Here Cantillon indicates that the livres tournois were debased, or reduced in silver content between 1660 and 1700.

[89] This statement by Cantillon sounds very mercantilist but is less so when placed in its historical context. From the late 1680s to the late 1720s, the French government caused the exportation of money, the devaluation of currency, and the near destruction of private capital markets. What amounted to a series of forced monetary deflations led to lower real prices, and lower asset prices. See Hoffman et al. (2000, chapter 3).

Secondly, tax revenues are more easily raised in a state where money is plentiful, and in relatively larger amounts. This gives the state, in case of war or dispute, the means to gain all sorts of advantages over its adversaries with whom money is scarce.

If there are two princes at war over the sovereignty or conquest of a state, where one has much money and the other has little money but many estates worth twice the money of his enemy, the first will be better able to attract generals and officers with gifts of money than the second will be by giving twice the value in lands and estates. Grants of land are subject to challenge and revocation and cannot be relied upon like money. With money, munitions of war and food can be bought, even from the enemies of the state. Money can be given for secret services without witnesses, but land, produce and goods would not serve for these purposes, not even jewels or diamonds, because they are easily recognized. After all, it seems to me that the comparative power and wealth of states consist, other things being equal, in the greater or less abundance of money circulating in them *hic et nunc*.[90]

I still have to mention two other methods of increasing the amount of money circulating in a state. The first is when entrepreneurs and private individuals borrow money from their foreign correspondents at interest, or when foreigners send their money into the state to buy shares or government stocks. This often amounts to very considerable sums on which the state must annually pay interest to these foreigners. These methods for increasing money in the state do make it more abundant and diminish the rate of interest. With this money, the entrepreneurs in the state find it possible to borrow more cheaply, to provide work, and to establish factories with the anticipation of a profit. The artisans, and all those whose hands this money passes through, consume more than they would have done if they had not been employed by means of this money. This consequently increases prices just as if the money belonged to the state and through the increased consumption or expenditures this causes, public revenues derived from taxes on consumption are increased. Money lent to the state in this manner brings many advantages with it, but in the end, it is always burdensome and harmful. The state must pay the interest to the foreigners

[90] Latin phrase for "here and now" suggesting that this otherwise merchantilist-sounding pronouncement applies to the short run.

every year and, aside from this loss, the state is at the mercy of the foreigners who can always cause trouble if they decide to withdraw their capital. Surely, they will want to withdraw their capital when the state needs it the most, as when preparing for war and defeat is feared. The interest paid to the foreigner is always much more considerable than the increase in pubic revenue caused by this money. One can observe these loans passing from one country to another, according to investors' confidence in the states to which they are sent. But in reality, states that have paid heavy interest on these loans for many years will often find themselves bankrupt and unable to repay the capital. When trust is shaken, shares or public stocks fall; foreign shareholders do not like to sustain losses, preferring to content themselves with collecting interest, while waiting for confidence to return. But sometimes it does not return. In declining states, the principal objective of public administrators usually is to restore confidence in order to attract foreign loans. If the ministry does not act in bad faith and keeps its obligations, the money of the subjects will circulate without interruption. In this case, money from abroad has the power of increasing the quantity of money in a state.

But the borrowing road, which holds an advantage in the present, leads to a dead end and is but a flash in the pan. To restore a poor state with a shortage of money, a constant and real balance of trade is needed on an annual basis, as is the development, through navigation, of the articles and manufactures produced cheaper and thereby suitable for exportation.[91] Merchants are the first to make their fortunes, then the lawyers may get part of it, the prince and tax collectors get a share at the expense of all the others, and distribute their graces as they please. When money becomes too plentiful in the state, luxury will follow and the state will fall into poverty.

This is roughly the cycle that may be experienced by a large state which has both capital and industrious inhabitants. A talented public administrator is always able to begin the cycle over again. Not many years are needed to see it tried and succeed, at least in the beginning, which makes for the most interesting situation. The increased quantity of money in circulation

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[91] Cantillon's recipe for economic success would appear to be production by skilled labor, trade, and saving.

will be brought about by several factors that my argument does not allow me to examine now.

As for states without much capital and where capital can only be increased by accidents or by particular circumstances of the times, it is difficult to find the means that would allow them to flourish by trade. No administrator can restore the Republics of Venice and Holland to the brilliant situation from which they have fallen. But Italy, Spain, France, and England, however poor they may be, are still capable of attaining a high degree of power by trade alone if led by a good administration and if they operate separately. If all these states were equally well administered, they would be great only in proportion to their respective capital and to the greater or lesser industriousness of their people.[92]

The last method I can think of to increase the quantity of money actually circulating in a state is by violence and arms, and this method is often blended with the others, since in all peace treaties one will try to maintain trading rights and other privileges one could obtain. When a state mandates contributions or makes several other states tributary to it, this is a very sure method of obtaining their money. I will not examine the methods of putting this theory into practice, but I will say that all the nations who have flourished in this manner have not failed to decline, like states that have flourished through their commerce. The ancient Romans were more powerful in this manner than all the other peoples we know of. Nevertheless, these same Romans, before losing an inch of the land of their vast states, fell into decadence through luxury and impoverished themselves by the reduction of money which circulated among them, and it was this luxury that caused their empire to pass into the hands of the eastern nations of the Orient.

So long as Romans' luxury (which did not begin until after the defeat of Antiochus, King of Asia, around A.U.C. 564)[93] came from the product of the land and the labor of all the vast estates of their dominion, the

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[92] Here Cantillon recognizes a basic fallacy of mercantilism which is that if one nation wins, another must lose. Here all nations can benefit from trade (when there are no political administrative advantages) and that benefits to all increase in proportion to the amount of capital and labor.

[93] King Antiochus III the Great was ruler of the Seleucid Empire (eastern half of Alexander's Empire including modern Turkey to Persia and other parts of the Middle East). Antiochus was defeated by a much larger Roman army in Greece at the Battle of Thermopylae in 191 B.C. and the decisive Battle of Magnesia which was fought in Asia Minor in 190 B.C. (a.k.a. A.U.C. 564).

circulation of money only increased instead of decreasing. The public was in possession of all the gold, silver, and copper mines in the empire. They had the gold mines of Asia, Macedonia, Aquileia[94] and the rich mines, both gold and silver, of Spain and other countries. They had several mints where gold, silver and copper coins were struck. In Rome, the consumption of all the goods and merchandise drawn from their vast provinces did not diminish the circulation of money, any more than the pictures, statues and jewels themselves. Although the wealthy landlords spent excessive amounts for their feasts, and paid 15,000 ounces of silver for a single fish, all that did not diminish the quantity of money circulating in Rome, given that the provinces made tributes regularly, not to mention the money brought in by lenders and by governors with their extortions. The amounts annually extracted from the mines increased the circulation in Rome during Augustus' whole reign. However, luxury was already on a very great scale, and there was much eagerness, not only for curiosities produced in the empire, but also for jewels from India, pepper and spices, and all the rarities of Arabia. Silks, which were not made in the empire, began to be in demand there. Nevertheless, the money drawn from the mines still exceeded the sums sent out of the empire to buy all these things. However, under Tiberius, money became scarce when that emperor collected 2.7 billion sesterces[95] in his treasury. To restore an abundant circulation, he only needed to borrow 300 million on a mortgage of his estates. After his death, Caligula spent all of Tiberius' treasure in less than one year, and it was then that the abundance of money in circulation was at its highest in Rome and the wind of luxury kept on blowing. The historian Pliny[96] estimated that in his time the empire exported at least 100 million sesterces annually. This was more than was drawn from the mines. Under Trajan, land prices fell by one-third or more, according to the younger Pliny, and money continued to decrease until the time of the Emperor Septimus Severus.[97] Money was then so scarce in Rome that the emperor collected enormous quantities of wheat, being

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94 Founded by the Romans as a defensive outpost in northeast Italy (near Venice) it developed into a center of commerce after gold was discovered in the region.

95 Roman money: one sesterce was worth one quarter or a "denier." Originally a small silver coin, it was converted into a larger bronze coin during Augustus coinage reform of 23 B.C.

96 Gaius Plinius Caecilius Secundus (63-ca. 113 AD) as known as Pliny the Younger was a lawyer and author and the great nephew of Pliny the Elder (23-79 AD).

97 Emperor of Rome from 193 to 211 A.D.

unable to collect enough tax money for his enterprises. Thus the Roman Empire declined through the loss of its money before losing any of its estates. That is what luxury brought about, and what it always will bring about in similar circumstances.

# Chapter Nine

## Interest on Money and its Causes

**Abstract:** Interest is established in the market by lenders and borrowers and the interest rate on a particular loan is determined by the risk of default. A loan is repaid from the income generated from capital investments and the interest paid is equivalent to the profits of fully capitalized enterprises. Small entrepreneurs pay high rates whether they borrow cash or purchase goods to be paid at a later date, based on risk and their propensity to spend beyond their means. Thereby, interest rates on loans are connected with an individual's time preference.

JUST AS THE PRICES OF GOODS are set by the bargaining process in the market and by the quantity of goods offered for sale relative to the quantity of money offered for them, or in other words, by the relative number of sellers and buyers, so in the same way the interest on loans in a state is settled by the relative number of lenders and borrowers.

Although money serves as a medium of exchange, it does not multiply itself or earn interest simply by being in circulation. It is the needs of mankind that seem to have introduced the usage of interest. A man who lends money backed by good securities or a mortgage only runs the risk of the ill will of the borrower, or of expenses, lawsuits, and losses. However, when he lends without collateral, he runs the risk of losing everything. For this reason, needy men must have begun by tempting lenders with profit as bait and this profit must have been proportionate to the needs of the

borrowers and the fear and avarice of the lenders. This seems to be the origin of interest although its continued use in states seems to be based upon the profits that entrepreneurs can make from it.

Land aided by human labor, naturally produces 4, 10, 20, 50, 100, 150 times the amount of wheat sown, depending on the fertility of the soil and the industry of the inhabitants. It also produces fruits and cattle. The farmer who runs the operation generally keeps two-thirds of the production, with one third paying his expenses and upkeep and the other being the profit for his enterprise.

If the farmer has enough capital for this enterprise, such as the necessary tools, horses for plowing, cattle to increase the value of the land,[98] etc., he will keep for himself, after paying all expenses, one-third of the farm's production. But if a competent laborer, who lives on his wages from day to day and who has no land, can find someone willing to lease land or the money to buy some, he will be able to give the lender all of the third rent, or one-third of the production of the farm over which he will become the farmer or entrepreneur. However, he will see his condition improved because he will obtain his upkeep in the second rent, and will become master instead of employee. If he can save and do without some necessities, he can gradually accumulate some capital and have less to borrow every year. Eventually, he will manage to keep all of the third rent.

If this new entrepreneur can buy wheat or cattle on credit that will be paid back long term when he sells his farm products for money, he will gladly pay more than the cash market price. This is the same thing as if he borrowed cash to buy wheat, with the interest paid being the difference between the cash price and the price payable at a future date. However, whether he borrows cash or goods, there must be enough left over for his upkeep, or he will become bankrupt. This risk is the reason why he will be required to pay 20 or 30 percent profit or interest on the amount of money or value of the goods he borrows.

In a similar manner, a master hat maker who has capital to carry on his manufacture of hats; to rent a house, buy beaver skins,[99] wool, dye, etc.,

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98 In the era before chemical fertilizer, cattle manure was often crucial as a fertilizer for maintaining the productivity of agricultural land.

99 Beaver skin hats were fashionable in Europe from the mid-sixteenth to mid-nineteenth century. Beavers were a stimulate to colonization in North America where they were nearly made extinct.

and to pay for the subsistence of his workmen every week, should obtain his own upkeep from this enterprise and a profit similar to that of the farmer who keeps one-third of his farm's output as profit. This upkeep and the profit should come from the sale of the hats, the price of which ought to cover not only the materials, but also the upkeep of the hatter and his workmen, and also the profit in question.

A capable journeyman hatter with no capital may undertake the same business by borrowing money and materials and giving the profit to anybody who is willing to lend him the money or entrust him with the beaver, wool, etc., for which he will pay sometime later when he has sold his hats. If, when his bills are due, the lender requires his capital back, or if the wool merchant and other lenders will not grant him further credit, he must give up his business, in which case he may prefer to go bankrupt. But if he is prudent and industrious, he may be able to show his creditors that he has, in cash or in hats, about the same value that he has borrowed, and they will probably choose to continue to give him credit and be satisfied, for the time being, with their interest or profit. In this way, he will carry on and will perhaps gradually save some capital by cutting back upon his necessities. In this manner, he will have less to borrow every year, and when he has collected enough capital to conduct his business (which will always be proportional to his sales) he will keep his entire profit and grow rich if he does not increase his expenditures.

It is useful to observe that the upkeep of such a manufacturer is small compared to the sums he borrows for his business or to the value of materials entrusted to him. Therefore, the lenders run no great risk of losing their capital if the borrower is respectable and hard working. However, as he may not be, the lenders will always require a profit or interest of 20 to 30 percent of the value of their loan. Even then, only those who have a good opinion of him will trust him. The same inductions may be made with regard to all the masters, artisans, manufacturers and other entrepreneurs in the state, who carry on enterprises in which the capital considerably exceeds the value of their annual upkeep.

However, if a water carrier in Paris sets himself up as the entrepreneur of his own work, all the capital he needs is the price of two buckets, which he can buy for one ounce of silver, after which all his gains are profit. If he earns 50 ounces of silver a year by his labor, the amount of his capital or borrowing relative to his profit is 1 to 50. That is, he will earn 5,000 percent,

while the hatter will earn only 50 percent and will also have to pay 20 or 30 percent to the lender.

Nevertheless, a moneylender will prefer to lend 1,000 ounces of silver to a hat maker at 20 percent interest, rather than lend 1,000 ounces to 1,000 water carriers at 500 percent interest. The water carriers will quickly spend on their maintenance, not only the money they gain by their daily labor, but all that is lent to them. These amounts of capital are small compared with what they need for their maintenance; however much or little they work, they can easily spend all that they earn. Therefore, it is difficult to determine the profitability of small entrepreneurs. It may well be that a water carrier earns 5,000 percent of the value of the buckets that are the capital of his company. He could even earn 10,000 percent, if by hard work he earns 100 ounces of silver a year. However, because he could easily spend 100 ounces on himself just as easily as 50, it is only by knowing what he devotes to his upkeep that we can determine how much clear profit has been made.

It is always necessary to deduct the subsistence and maintenance of the entrepreneur before determining their profit. We have done this in the example of the farmer and of the hat maker. However, we have shown that this is difficult to determine in the case of the smallest entrepreneurs, the majority of whom will eventually go bankrupt.

Ordinarily, brewers in London will lend a few kegs of beer to pub owners, and when they pay for the first kegs they continue to lend them more. If these pubs do a brisk business, the brewers can make an annual profit of 500 percent; and I have heard that the big brewers grow rich when no more than half the pubs go bankrupt on them in the course of the year.

All the merchants in a state are in the habit of lending merchandise or products to retailers. They proportion the amount of their profit or interest to that of their risk. The risk is always considerable when the proportion of the borrower's maintenance is high relative to the amount of the loan. If the borrower or retailer does not have a prompt flow of sales in his small business, he will quickly be ruined and will spend all he has borrowed on his own subsistence and will consequently be forced into bankruptcy.

The fish merchant, who buys fish at Billingsgate[100] in London to sell again in other areas of the city, generally pays, under a contract made by a professional writer, one shilling per guinea or per twenty-one shillings of interest per week, which amounts to 260 percent per year.[101] The market women in Paris, whose business is smaller, pay five sols[102] for the week's interest on an ecu[103] of three livres, which exceeds 430 percent per year.[104] And yet, there are few lenders who make a fortune from such high interest.

These high rates of interest are not only tolerated but are in a way useful and necessary in a state. Those who buy fish in the streets pay for these high interest rates with an increase in the price they charge. They provide a convenience for their customers who do not consider it a loss. In the same manner, an artisan who drinks a beer and pays a price that gives the brewer his 500 percent profit, is satisfied with this convenience and does not feel the loss of this small detail.

The Casuists, who hardly seem suitable to judge the nature of interest and matters of trade, have created a concept (damnum emergens) through which they will tolerate these high interest rates. Rather than disrupt its use and suitability to business, they have agreed to allow those who lend at great risk to charge a proportionally high rate of interest. And there is no limit, for they would be at a loss to find any definite limit because in reality, this business depends on the fears of the lenders and the needs of the borrowers.[105]

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[100] Billingsgate was the location of a fish market that developed during the sixteenth and seventeenth centuries in the southeastern part of London, on the docks located on the north bank of the Thames River.

[101] One shilling interest per twenty shillings borrowed equals (1/21) or 4.76% per week or 248% simple interest per year.

[102] One sol was worth 1/20 of a livre.

[103] A French silver coin originally worth three livres.

[104] Five sols interest per sixty sols borrowed (3 livres * 20 sols per livre) equals 8.3% interest per week or 433% simple interest per year.

[105] The Casuists were scholastic theologians who wrote on the topic of usury. Starting from the position of "just price" where any interest was illegitimate and unjust, the scholastics gradually moved towards accepting the concept of interest, the charging of high rates of interest, and eventually to the position that any rate determined in the market and agreed to by both parties was a just price for a loan. Cantillon mentioned two concepts the Casuists developed, *lucrum cessa*ns and *damnum emergens*, which supported the payment of interest against charges of usury. *Lucrum cessans* provided an exception whereby a lender could legitimately receive interest from a borrower equal to the same return he could have made from an alternative use of his money had he not lent it to the borrower. Similarly, *damnum emergens* provided an exception

Maritime merchants are praised when they can generate a profit from their enterprise's capital, even though it is as high as 10,000 percent; and whatever profit wholesale merchants make or demand for selling products or merchandise to smaller retail merchants on long credit, I have not heard the Casuists declare it a crime. They are, or seem to be, a little more scrupulous about loans of money even though it is essentially the same thing. They even tolerate these loans by a distinction (lucrum cessans) that they invented. I understand this means that a man who usually makes a 500 percent profit in his business may demand this rate when he lends money to another. Nothing is more entertaining than the multitude of laws and rules made in every century on the subject of the interest of money—always unnecessarily—by wiseacres who hardly understand the facts of commerce.

From these examples and inductions, it seems that there are many classes and pathways of interest or profit in a state. In the lowest classes, interest is always highest in proportion to the greater risk, and it diminishes, from class to class, up to the highest which is that of rich merchants who are known to be creditworthy. The interest stipulated for this class is called the current rate of interest in the state and it differs little from the interest rate charged on land mortgages. A bill of exchange from a solvent and solid merchant is as well regarded, at least in the short run, as a mortgage on land, because the possibility of a lawsuit or a dispute involving the mortgage is equivalent to the possibility of the merchant's bankruptcy.

If entrepreneurs in a state could not make a profit on the money or goods that they borrow, the use of interest would probably be less frequent than it is. Only extravagant people and spendthrifts would contract for loans. But accustomed as everyone is to depend on entrepreneurs, there is a constant source for loans and consequently for interest. Entrepreneurs are the ones who cultivate the land and supply bread, meat, clothes, etc., to all the inhabitants of a city. Those who work on wages for these entrepreneurs, also seek to set themselves up as entrepreneurs, in emulation of each other. The multitude of entrepreneurs is much greater among the Chinese as they have a lively spirit, a genius for enterprise, and a determination to achieve their goals. There are among them many entrepreneurs whose

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whereby a lender could be compensated for any damages suffered because of the absence of the money lent. Both concepts justified the charging of interest and recognized the existence of the opportunity cost of money.

work here is done by people on fixed wages. They even supply meals for laborers in the fields. It is perhaps this large number of small entrepreneurs and others, from the various classes, who earn a living from consumption without injuring the consumer, that keeps the rate of interest for the highest classes at 30 percent, while it hardly exceeds 5 percent in Europe. At Athens, in Solon's time,[106] interest was at 18 percent. In the Roman Republic, it was most commonly 12 percent, but has also been known to be 48, 20, 8, 6, and its lowest was 4 percent. It was never so low in the free market as toward the end of the Republic and under Augustus after the conquest of Egypt.[107] The Emperor Antoninus[108] and Alexander Severus[109] only reduced interest to 4 percent by lending public money on the mortgage of land.

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[106] Solon (638 B.C.–558 B.C.), a foreign trader, wrote the first Constitution of Athens in which he established a civic democracy based on wealth rather than social position or family ties. He also abolished slavery and serfdom and instituted trial by jury. He also eliminated all debts, which may have had an impact on interest rates.

[107] Egypt became part of the Roman Empire 31 B.C. Augustus reigned from 27 B.C. to 14 A.D. and instituted a relatively free market economy.

[108] Antoninus was Roman emperor from 138 A.D. to 161 A.D.

[109] Alexander Severus, also known as Marcus Aurelius was a Roman emperor (222 A.D. to 235 A.D.)

# Chapter Ten

## The Causes of Increases and Decreases of the Interest Rate on Money in a State

**Abstract:** The interest rate is determined by the supply and demand for loanable funds, not the supply of money. Savings and frugality decrease the interest rate while lavish spending increases it. War increases the interest rate, peace decreases it. Paying off the national debt decreases the interest rate. A positive balance of trade decreases the interest rate, but the government cannot effectively lower the interest by a usury law. The interest rate is a critical factor in the valuation of assets such as land.

IT IS A COMMON IDEA, accepted by all those who have written on commerce, that an increased quantity of money in a state decreases the rate of interest, because when money is abundant it is easier to find some to borrow. This idea is not always true or accurate. For proof, we need only to remember that in 1720, nearly all the money in England was brought to London. In addition, the number of notes in circulation further accelerated the movement of money to an extraordinarily level.[110]

However, this abundance of money and increased circulation did not decrease the interest rate, which had been running at 5 percent or lower. It only served to raise the rate, which increased up to 50 and 60 percent. It is

[110] Cantillon is referring here to an increase in the amount of bills of exchange, and what is now called the "velocity of money," during the South Sea Bubble of 1720.

easy to account for this increased rate of interest by the principles and the causes of interest that I established in the previous chapter. The reason is that everyone had become an entrepreneur in the South Sea scheme and wanted to borrow money to buy shares, expecting to make an immense profit with which it would be easy to pay this high rate of interest.[111]

If the abundance of money in the state comes from the hands of moneylenders, the increase in the number of lenders will probably lower the rate of interest. However, if the abundance comes from the hands of people who will spend it, this will have just the opposite effect and will raise the rate of interest by increasing the number of entrepreneurs who go into business as a result of this increased spending, and will need to supply their businesses by borrowing at all types of interest.

The abundance or scarcity of money in a state always raises or lowers the price of everything in markets, without any necessary connection to the rate of interest, which may very well be high in states where there is plenty of money, and low in those where money is scarcer—high where everything is expensive, and low where everything is cheap; high in London, low in Genoa.

The rate of interest rises and falls every day from mere rumors, which might decrease or increase the confidence of lenders without affecting the prices of product in markets.

The most constant source for a high rate of interest in a state is the great expenditures of nobles, property owners, and other rich people. Entrepreneurs and master craftsmen supply the great houses with all the elements of this spending and entrepreneurs almost always need to borrow money in order to supply them. When the nobles consume beyond their income and borrow money, they doubly contribute to raising the interest rate.

In contrast, when the nobles of the state live frugally and buy first hand [without middlemen] as often as they can, they will acquire many products from their servants without dealing with entrepreneurs. This diminishes profits and the numbers of entrepreneurs in the state and it consequently reduces the number of borrowers, as well as the interest rate. Because these entrepreneurs work with their own capital, borrowing as little as they can,

[111] Cantillon may have been the first author to clearly distinguish between the purchasing power of money and the interest rate on loans. This was one of the most critical elements of Cantillon's overall assault on mercantilist doctrine.

and content themselves with small profits, they prevent those who have no capital from starting similar enterprises with borrowed money. Such is the case today in the Republics of Genoa and Holland, where interest is sometimes at two percent, or lower for the upper classes. Meanwhile, in Germany, Poland, France, Spain, England and other countries, the affluence and expenses of noblemen and property owners has kept the country's entrepreneurs and master artisans accustomed to large profits, enabling them to pay a high rate of interest, which is higher still when they import everything from abroad with the added risk for the enterprises.

When the prince or the state incurs heavy expenses, such as when making war, the rate of interest increases for two reasons. The first is that it increases the number of entrepreneurs with several new large enterprises for war supplies, and it therefore increases borrowing. The second is because of the greater risk that war always brings.

On the contrary, when the war is over, risk diminishes, the number of entrepreneurs decreases, and war-contractors who go out of business, reduce their expenditures and become lenders of the money they have gained. In this situation, if the prince, or state, offers to repay part of the public debt, it will reduce the rate of interest significantly. This will truly have an effect if part of the debt can be paid off without borrowing elsewhere, because the repayments increase the number of lenders in the highest class of interest [i.e., the prime rate], which will affect all the other classes.

When the abundance of money in the state is caused by a continuous [positive] balance of trade, this money first passes through the hands of entrepreneurs. And although it increases consumption, it does not fail to lower the rate of interest because most of the entrepreneurs will acquire enough capital to conduct their business without borrowing, and even become lenders of the amount they have gained beyond what they need to operate their business. If the state does not have a great number of nobles and rich people who spend lavishly, the abundance of money will certainly lower the interest rate, while increasing the price of goods and merchandise exchanged. This is what usually happens in republics that have neither much capital nor considerable land, and which grow rich only by foreign trade. But in states that have considerable capital and large property owners, the money brought in by foreign trade increases their rents, and enables them to spend heavily, which maintains several entrepreneurs and

artisans besides those who engage in the foreign trade. This always keeps interest rates high despite the abundance of money.

When a noble or property owner ruins himself by extravagant expenditures, the lender who holds the mortgages on the property often acquires the absolute ownership to it. It may also be the case in a state that lenders provide more credit than money in circulation. In this case, they are subordinate owners of the land and its production, which have been mortgaged as security, and without which the lenders' capital would be lost by the bankrupcy of the borrowers.

In the same manner, one may consider the owners of public debt to be the subordinate owners of state revenues, which is used to pay them interest. However, if the legislature was compelled by the needs of the state to use these revenues for other purposes, the owners of public debt would lose everything, while the amount of money circulating in the state would not diminish by a single coin.

If the prince or the administrators of the state want to regulate the current interest rate by law, the regulation must be established on the basis of the current market rate in the highest class, or thereabout.[112] Otherwise the law will be useless because entrepreneurs are obedient to the forces of competition, or the current price as settled by the proportion of lenders to borrowers, and as a result, they will resort to secret deals. This legal constraint will only hamper trade and raise the interest rate, instead of fixing it. Historically, the Romans, after passing several laws to restrict interest rates, passed one to prevent the lending of money altogether. This law had no more success than its predecessors. Justinian's law, which restrained well-to-do people from taking more than 4 percent, those of a lower order 6 percent, and traders 8 percent, was equally amusing and unjust, because it was not forbidden to make 50 and 100 percent profit in all sorts of enterprises.[113]

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112 Cantillon seems to disparage usury laws in general but here stipulates that if they are used, they must conform to the market rate of the highest class of interest. This would allow the state, property owners, and the most trustworthy borrowers to continue to borrow without interference. Entrepreneurs could finance their businesses by purchasing supplies and inputs where the price to be paid in the future includes a return on interest. Private individuals could continue to borrow and easily evade the law. Therefore, usury laws based on market rates would cause little "embarassment."

113 Justinian I (483AD – 565AD) was an Eastern Roman Emperor and is considered one of the most important of the later emperors. He is most remembered for the codification of Roman law that he initiated and which subsequently became the basis of European legal systems.

If it is allowable and respectable for a property owner to lease a farm to a poor farmer at a high rent, risking the loss of the rent for a whole year, it seems that it should be permissible for a lender to lend money to a needy borrower, at the risk of not only losing his interest or profit, but also his capital, and to stipulate any interest rate that the borrower will freely consent to pay. It is true that loans of this type can make lenders worse off; they can lose both the interest and their capital because they are far less likely to recoup losses compared to the property owner who cannot lose the land he rents. Because bankruptcy laws are relatively favorable to debtors and allow them to start again, it seems that usury laws should always be adjusted to market rates, as is the case in Holland.

The current interest rate in a state seems to serve as a basis for establishing the market price of land. If the current rate is 5 percent or one-twentieth part, the price of land should be the same [i.e., twenty times the amount of interest paid per year on the mortgage of similar land]. However, because ownership of land gives a certain status and rights in some states, it will be the case that when interest is 5 percent or one-twentieth part, the price of land is set at 1/24 or 1/25 [25 times], although the mortgage rate on the same land hardly exceeds the current interest rate.

After all, the price of land, like all other prices, is regulated naturally by the proportion of sellers to buyers, etc. And as there will be many more buyers in London, for example, than in the provinces, and as these buyers who live in the capital will prefer to buy land in their locality rather than in distant provinces, they would rather buy land in their vicinity at 1/30 or 1/35, than distant lands at 1/25 or 1/22. There are often other acceptable reasons affecting land prices, unnecessary to mention here, since they do not invalidate our explanations of the nature of interest.[114]

[114] Cantillon here seems to be suggesting a capital asset pricing model where the value of land is 22 to 35 times the annual interest or income derived from the land, and that the ratio is adjusted according to the benefits of its location.

PART THREE

# International Trade and Business Cycles

# Chapter One

## On Foreign Trade

**Abstract:** Here the circular-flow economy is extended to international trade. Instead of barter or exchange with money, Cantillon explains how international trade takes place on the basis of bills of exchange. He shows that a state which accumulates money will enjoy a temporary gain in international trade, but that states where manufacturing industries develop will enjoy a higher standard of living. The only clear exception Cantillon makes to free trade is his famous endorsement of the English Navigation Acts, where domestic shipping is protected, not in its own right, but to provide ships and sailors during wartime.

WHEN A STATE EXCHANGES a small product of land for a larger in foreign trade, it seems to have the advantage; and if money is more abundant than abroad, it will always exchange a smaller product of land for a greater one.

When the state exchanges its labor for foreign products, it seems to have the advantage, because its inhabitants are fed at the foreigner's expense.

When a state exchanges products and labor for a larger amount of foreign products, that require an equal or greater amount of labor, it seems again to have the advantage.

If the ladies of Paris annually consume lace from Brussels valued at 100,000 ounces of silver, it will require a quarter of an acre of land in Brabant to grow the 150 pounds of flax necessary to make the fine lace in

Brussels. It will require the labor of approximately 2,000 people in Brabant during the year for the several tasks involved, from the sowing of the flax to the final perfection of the lace. The lace merchant or entrepreneur in Brussels will advance the capital. He will, directly or indirectly, pay all the spinners and lace makers, and a portion of the labor of those who make their tools. All those who have taken part in the work will then buy, directly or indirectly, their sustenance from the farmer in Brabant, who will use the money to cover part of his rent to the property owner. In this economy, if one estimates that these 2,000 persons need three acres of land per capita for their maintenance as well as that of their families, then six thousand acres of land in Brabant will be required to support those who have worked on the lace, at the expense of the ladies in Paris who will buy and wear the lace.

The ladies of Paris will pay the 100,000 ounces of silver, each according to the quantity of lace she has bought. All this silver must be sent to Brussels in specie, less only the cost of shipping. The entrepreneur in Brussels must find that it not only pays of all his advances and the interest on the money that he has perhaps borrowed, but also a profit for his enterprise and the upkeep of his family. If the price paid by the ladies for the lace does not cover all the costs and profits, there will be no incentive for this business, and the entrepreneurs will cease production or become bankrupt. However, if we assume that this manufacturing continues, all costs must be covered by the prices paid by the ladies of Paris, and that 100,000 ounces of silver must be sent to Brussels, if the people of Brabant receive no commodities from France as compensation.

However, if the inhabitants of Brabant are fond of Champagne[115] wine and consume 100,000 ounces of silver worth of wine every year, the wine products will compensate for the lace, and the balance of trade for these two branches will be equal. This compensation and circulation will be achieved through entrepreneurs and bankers who will participate in this trade.

The ladies in Paris will pay 100,000 ounces to whoever sells and delivers the lace to them; the seller will then give the money to a banker who, in exchange, will give him one or more bills of exchange[116] redeemable by

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[115] Region of France located just east of Paris.

[116] A check or bank draft used in international trade that is an order written by one person to pay another a specific sum on a specific date in the future. In this case the Paris bank is giving the lace dealer a bill of exchange that can be cashed at the Brussels bank.

the institution's correspondent bank in Brussels. The Paris banker will then give the money to the Champagne wine merchants who have accumulated 100,000 ounces of silver in the Brussels bank. In return, the wine merchants give the Paris bank their bills of exchange—of the same amount—to be redeemed from their account with the correspondent bank in Brussels. Thus the 100,000 ounces paid for the Champagne wine in Brussels will compensate for the 100,000 ounces paid for the lace in Paris, and in this way, the trouble of sending to Brussels the money acquired in Paris, and to Paris the money acquired in Brussels, will be avoided. This compensation is achieved by using bills of exchange, the nature of which I will try to explain in the next chapter.

From this example, we can see that the 100,000 ounces paid by the ladies of Paris for lace comes into the hands of the merchants who send Champagne wine to Brussels, and that the 100,000 ounces consumers paid for Champagne wine in Brussels comes into the hands of lace merchants. The entrepreneurs on each side distribute this money to those who work for them, either in the wine or the lace business.

It is clear from this example that the ladies in Paris support and maintain all those who produce the lace in Brabant and that they cause money to circulate there. It is also clear that the consumers of Champagne wine in Brussels support and maintain, in Champagne, not only the winemakers and others who work in the production of the wine, but also the wagon makers, blacksmiths, and wagon drivers, etc., who take part in its transport, as well as the horses they use. They also pay for the value of the land used to produce the wine, and cause a circulation of money in Champagne.

However, this circulation or trade in Champagne, which is so stimulating and which maintains the winemaker, the farmer, the wagon makers, blacksmiths, and wagon drivers, etc., and which pays the rent of the vineyard owner as well as that of the owner of the pastures that serve to feed the wagon horses, is, in the present case, an expensive and disadvantageous trade for France when taking the effects it produces into consideration.[117]

If a barrel of wine[118] sells for sixty ounces of silver in Brussels and if we assume that one acre of vineyard produces four barrels, the production

[117] French apparell and luxury goods industries were highly regulated and monopolized by French mercantile policy during this time period so that such luxury goods had to be imported even though France probably had a comparative advantage in them.

[118] A "muid" or barrel of wine contains 288 pints or 36 U.S. gallons.

of 4166.5 acres of land must be sent to Brussels to equal 100,000 ounces of silver, and about 2,000 acres of pasture and cropland must be employed for the hay and oats consumed by the wagon horses, if they are solely used for this purpose year round. Therefore, approximately 6,000 acres of land will be relinquished from the subsistence of Frenchmen and the people of Brabant will gain the production of over 4,000 acres, since the Champagne wine they drink saves them more than 4,000 acres of land they would likely use to produce beer, if they did not consume wine. However, the lace used to pay for all this costs the people of Brabant only one quarter of an acre of flax. Therefore, with the production of one acre—combined with their labor—the people of Brabant buy more than 16,000 acres worth (combined with less labor) from the French. They obtain an increase in subsistence and only give an article of luxury, which brings no real advantage to France since the lace is worn and consumed and cannot be exchanged for anything useful afterward. Following the rule of intrinsic values, the land used in Champagne for wine production, the maintenance of the winemakers, the coopers, the wagon makers, blacksmiths, wagon drivers horses, etc., ought to equal the land used in Brabant for the production of the flax, the support of the spinners and lace makers, and all those who have taken part in the production of the lace.

But if money in circulation is more abundant in Brabant than Champagne, land and labor will be at higher prices there and, as a result of the valuation in terms of money that takes place on both sides, the French will lose even more.[119]

In this example, we see a branch of trade that strengthens the foreigner, lessens the number of inhabitants in the state, and, without causing any money in circulation to leave, weakens this same state. I've chosen this example to better show how one state may be the dupe of another in trade, and to show the method of judging the advantages and disadvantages of foreign trade.

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119 Cantillon would later show that there is a market mechanism that regulates the flow and circulation of money between nations. However, France suffered several bouts of artificial shortages of money resulting from attempts to exploit money holders by the monarchy.

It is by the examination of the effects of each particular branch of commerce that foreign trade can be usefully regulated.[120] It cannot be distinctly known with generalizations.

One will always find, when examining particular cases, that the exportation of any manufactured goods is advantageous to the state because the foreigner always pays and supports workers who are useful to the state. The best returns or payments which one receives are in specie, and in default of specie, foreign products that require less labor. By these trading methods, states that have very little raw materials can support a large number of inhabitants at the expense of foreigners, and large states can maintain their inhabitants in greater ease and abundance.[121]

Great states have no need to increase the number of their inhabitants; they only need to support their citizens with domestic production, and in more ease and comfort, and to increase the strength of the state in terms of defense and security. To achieve the same result by foreign trade, the exportation of the state's products and manufactured goods must be strongly encouraged, in exchange—as often as possible—for gold and silver. If an abundant harvest creates a surplus of production in the state above the usual annual consumption, it would be advantageous to encourage its exportation in return for its value in gold and silver. These metals are nonperishable, they do not spoil like agricultural products, and gold and silver can always be used to import into the state what it does not have.

However, it would not be advantageous for the state to annually send great quantities of its agricultural products abroad in return for foreign manufactured goods. This would both weaken and decrease the number of inhabitants and the armed forces of the state.

It is not my intention to describe the branches of trade that should be encouraged for the good of the state. I'll simply say that the importation of money should be the goal.

An increase in the quantity of money circulating in a state provides great advantages in foreign trade, so long as this abundance of money lasts.

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[120] The word "regulated" does not imply government regulation of international trade. When Cantillon used the word "régler" he was usually refering to some form of market harmonization a la supply and demand.

[121] Cantillon has previously demonstrated why manufacturing workers receive higher wages than unskilled workers and how those wage rates are harmonized by market forces.

This allows the state to exchange a small quantity of products and labor for a greater one. It levies its taxes more easily and finds no difficulty in raising money in case of public need.

It is true that the continued increase of money will, in time, and by its abundance, cause land and labor costs to rise in the state. Products and manufactured goods will, in the long run, cost so much that the foreigner will gradually cease to buy them, and will adjust to buying them cheaper elsewhere. By imperceptible degrees, this will ruin the businesses and manufactures of the state. This same cause (the abundance of money) will raise the rents of property owners and will put them into the habit of importing many articles from foreign countries where they can be purchased for less. These are natural consequences. The wealth acquired by a state through trade, labor, and economy will gradually plunge it into luxury.[122] States that rise by trade do not fail to sink afterwards. There are steps that might be, but are not, taken to stop this decline. But it is always true that when the state has a positive balance of trade and an abundance of money, it seems powerful, and it really is as long as this abundance continues.

Infinite inductions could be added to justify these ideas of foreign trade and the advantages of abundant money. The disproportion of money in circulation in England and in China is astonishing. Despite an eighteen-month sea voyage, goods from the Indies, like silks, colored calicoes, muslins, etc., sell for a very low price in England, and could be paid for with the thirtieth part of her articles and goods, if the Indians would buy them. But they are not so foolish as to pay extravagant prices for our products while work is done better and infinitely cheaper in their own country. So they sell us their goods only for cash money, which we annually carry to them, increasing their wealth and diminishing our own.[123] Indian goods consumed in Europe only reduce our money and the work done by our own manufactures.

A [Native] American who sells beaver skins to a European is surprised, and rightly so, to learn that woolen hats are as good as those made of beaver, and that all the difference, which causes so long a sea journey, is in the mind of those who think that beaver hats are lighter and more pleasant to

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122 Cantillon was not opposed to luxury goods and fine living. Indeed he seemed to be a luxury goods enthusiast. When he uses the term luxury what he seems to be refering to decadence and living beyond one's means.

123 Asians have traditionally saved by accumulating jewelry made of precious metals (see Rissman 1988).

the eye and the touch. However, as these beaver skins are ordinarily paid for to the American in articles of iron, steel, etc., and not in money, this trade is not injurious to Europe, especially since it supports workers and particularly sailors, who are very useful to the state, while the commerce of goods from the East Indies exports money and diminishes the number of workers in Europe.

It must be acknowledged that the East Indian trade is profitable to the Dutch Republic and that she makes the loss fall on the rest of Europe by selling the spices and goods in Germany, Italy, Spain and the New World, for a profit well beyond the amount she sends to the Indies. Holland even finds it useful to clothe her women and other inhabitants with Indian fabrics rather than with English or French fabrics. It suits the Dutch better to enrich the Indians rather than their neighbors, who could use it to oppress them. Moreover, they sell the cloths and small manufactured goods that they produce to other Europeans for more than what they pay for the Indian goods consumed in Holland.

England and France would be mistaken to imitate the Dutch in this respect. These kingdoms have the means to clothe their women with their own products, and though their fabrics are more expensive than Indian-made ones, they should prevent their people from wearing foreign fabrics. They ought to prevent a reduction of their own articles and goods and not become dependent on the foreigner, still less allow their money to be taken away for that purpose.[124]

But as the Dutch find means to sell Indian goods in the other states of Europe, English and French should do the same, whether to reduce Holland's naval power or to increase their own, and above all, to do without Holland's aid in the branches of consumption that a bad habit has made necessary in these kingdoms. It is a visible disadvantage to allow the wearing of Indian fabrics in the kingdoms of Europe that have the means to clothe their people with their own products.[125]

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[124] France was practicing a severe form of mercantilism at the time, which, among other things, made the manufacture of cloth and fabric very expensive; the industry was tightly regulated and heavily monopolized. For example, the type of cotton fabrics that were being imported into Europe and smuggled into France—printed cotton calicos—were prohibited from being manufactured in the country (see Ekelund and Tollison, 1981).

[125] This would appear to be an implied criticism of French mercantile policy that restricted the production of certain fabrics in an age when direct criticism of the monarchy would land you in jail or worse.

Just as it is disadvantageous for a state to encourage foreign manufactures, so it is also to encourage foreign navigation. When a state sends its articles and goods abroad, it can obtain the full advantage if it sends them in its own ships. This way, trade supports a large number of sailors, who are as useful to the state as workers. If it leaves ocean transportation to foreign vessels, it strengthens foreign navies and weakens its own.[126]

Navigation is an essential aspect of foreign trade. In all of Europe, the Dutch are those who build ships the cheapest. In addition to the rivers that they use to float timber downstream, their proximity to the north[127] supplies them with less expensive masts, wood, pitch, rope, etc. Their mills for sawing wood facilitate the production. In addition, they navigate with smaller crews and their sailors live very cheaply. One of their windmills for sawing wood saves the labor of eighty men a day.

With these advantages, they would be the only sea carriers in Europe if cost alone mattered. And if they had enough resources to develop an extensive commerce, they would doubtless have the most flourishing merchant marine in Europe. However, their large number of sailors is not sufficient to make them a superior naval power because their state lacks internal strength. Even if they had the large revenues necessary to build and man war vessels, they would not do so because they profit from the expansion of trade.

In order to prevent the Dutch—with their low-cost advantage—from expanding their shipping business, England has forbidden any nation from importing goods that it did not produce. This precludes the Dutch from shipping to England and thereby strengthens the English shipping business. The English do ship at a greater cost than the Dutch, but the wealth of their overseas cargoes offsets some of these costs.[128]

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[126] This was a time period when England, France, Holland, and Spain were all involved in a mercantilist war, each vying to dominate the world's oceans, colonies, and trade routes. A most important component of a country's navy was its merchant marine, which could easily be transformed into commerce raiders during a war. A nation that lacked a merchant marine would be greatly disadvantaged.

[127] Here Cantillon is probably referring to the lowland countries of Belgium and Holland, the area now known as Germany, as well as the kingdoms of Denmark and Sweden.

[128] Cantillon is endorsing the English Navigation Acts, which targeted Dutch shipping and increased the merchant marine of the British empire. This endorsement, which was later echoed by Adam Smith, is not made on the basis of protecting domestic shipping, but as a measure that would help ensure that there would be enough sailors and ships in times of war.

France and Spain are maritime states that have a large part of their production sent to the north, from which they also acquire goods and merchandise. It is not surprising that their navies are insignificant in proportion to their production and the extent of their coasts, since they leave it to foreign vessels to import all the goods they receive from the north and to export the goods they send to northern states.

These states, France and Spain, do not take advantageous trade considerations into account in their policy. Most merchants in France and Spain who deal in foreign trade are usually the agents or clerks of foreign merchants, and are not entrepreneurs carrying on trade with their own funds.

It is true that northern states, by their location and proximity to countries that produce all that is needed for shipbuilding, are in a position to transport everything cheaper than France and Spain. However, this should not prevent these two kingdoms from taking steps to strengthen their shipping. England has long shown them the example. They have at home and in their colonies all that is needed for the construction of ships and it would not be difficult to get ships built there. There are a variety of methods that could be used to make such a policy successful if the legislature or state department would work towards that goal. My subject does not allow me, in this essay, to examine these methods in detail. I will simply say that in countries where trade does not support a large number of ships and sailors, it is almost impossible for the prince to maintain a flourishing navy without ruining the state treasury with large expenditures.

I will conclude by pointing out that the most important form of trade for the increase or decrease of a state's power is foreign trade. The domestic trade is not equally important politically. Foreign trade is only halfheartedly supported when attention is not paid to increasing and maintaining large merchants who are natives of the country, ships, sailors, workers and manufacturers. Above all, a balance of trade must be maintained against the foreigner.

# Chapter Two

## On Bills of Exchanges and their Nature

**Abstract:** There is an expense associated with transporting money based on the distance, risks, and other transaction costs. Bills of Exchange are a type of contract that can reduce this cost by avoiding shipments that are offsetting between two locations. When money must be sent, bankers charge a fee for arranging the shipment and providing their customers with a bill of exchange, or check, that can be drawn or cashed at a correspondent bank where the money is sent. When the exchange rate is above par, it indicates a balance of payments deficit, and when the exchange rate is below par, it indicates a balance of payments surplus.

IN THE CITY OF PARIS, transporting money from one place to another usually costs five sols per bag of 1,000 livres.[129] If it were necessary to carry it from the Faubourg St. Antoine to the Invalides,[130] it would cost more than twice as much, and if there were no generally trustworthy money couriers, it would cost even more. If there were likely to be robbers on the road, the money would be sent in large amounts, with an escort, at greater cost, and when someone bears the cost and risks of transport, he

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[129] The *livre tournois* was equal to 20 sols so that the transport charge would be one quarter livre or two and a half one hundreths of one percent.

[130] Faubough Saint Antoine was a suburb of Paris to the east and north of the River Seine. Hôtel des Invalides was a complex of buildings founded in 1671 by Louis XIV who was providing housing for disabled war veterans. At the time, it was located in western Paris south of the River Seine, but is now east of the Eiffel Tower.

will require payment in proportion to these costs and risks. Therefore, the cost of transport from Rouen[131] to Paris and from Paris to Rouen generally amounts to 50 sols per bag of 1,000 livres,[132] which, in the language of the bankers, is ¼ percent. Bankers generally send money in strongboxes[133] which robbers have difficulty taking because of the iron and the weight, and as there are always mail coaches on this route, the costs are negligible on large sums sent between these two places.

Assume that, every year, the city of Châlons-sur-Marne[134] pays 10,000 ounces of silver to the king's tax collector, and wine merchants from Châlons and the surrounding areas sell to Paris, through their distributors, Champagne wine for a total of 10,000 ounces of silver. If the ounce of silver is worth five livres in France, the 10,000 ounces in question will be worth 50,000 livres in both Paris and Châlons.

The tax collector, in this example, has 50,000 livres to send to Paris, and the distributors have 50,000 livres to send to Châlons' wine merchants. This double transaction, or transport, may be avoided by an exchange contract known as bills of exchange, if the parties get together and arrange for it.

In this example, let each wine distributor take his portion of the 50,000 livres to the cashier of the tax collector's office in Paris and in return he will be given a check or bill of exchange payable to the Châlons' tax collector. When these checks are endorsed and transferred to the Châlons' tax office, the tax obligations of the Châlons' wine merchants of 50,000 livres will be paid. In this manner, the 50,000 livres in Paris will be paid to the cashier of the tax department in Paris and the wine merchants of Châlons will, in effect, be paid, and by this exchange or offset, the trouble of sending this money from one city to the other is avoided. Or else, let Châlons' wine merchants, who have 50,000 livres in Paris, offer bills of exchange from their distributors to their tax collector and endorse them to the cashier of the tax office in Paris, who will in turn collect from the distributors the amount of 50,000 livres, which they owed to the merchants of Châlons for

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131 Rouen is located in the province of Normandy near Paris.

132 The 50 sols was the equivalent of two and a half livres or one quarter of one percent.

133 Cantillon uses a phrase that translates literally as "double barrels," which Higgs translated as "strong kegs".

134 Châlons-sur-Marnes was renamed Châlons-en-Champagne in 1998 and is the capital of the Champagne-Ardenne .

the bills of exchange. Whichever way this offsetting is achieved, whether the bills of exchange are drawn from Paris on Châlons or, as in this example, from Châlons on Paris, ounce for ounce, or 50,000 livres for 50,000 livres, is paid, and the exchange is said to be at par.

The same method might be adopted between Châlons' wine merchants and the rent collector for the nobility in Paris who own land in the Châlons district, and the wine merchants, or other merchants in Châlons who have sent goods or merchandise to Paris and have money there, and other merchants who have purchased goods from Paris and sold them in Châlons. If there is a large trade between these two cities, bankers will set up in Paris and Châlons, they will enter into relationships with the interested parties on both sides, and will become the agents or intermediaries for the payments that would otherwise have to be sent from one city to the other. Now if all the wine and other goods and merchandise, which have been sent from Châlons to Paris and have actually been sold there for cash, exceed in value the total receipts of the taxes in Châlons, plus the rents from Paris' nobility owning property in the Châlons district, as well as the value of the goods and merchandise sent from Paris to Châlons and sold there for cash, by 5,000 ounces of silver or 25,000 livres, it will be necessary for the banker in Paris to send this amount to Châlons in cash. This sum will be the excess or balance of trade between these two cities. This sum must be sent to Châlons in cash and this operation will be carried out in the following way or in some similar fashion.

The agents or distributors of the Châlons' wine merchants, and others, who have sent goods or merchandise to Paris, have money from these sales in Paris and that must be sent to Châlons. They are not in the habit of transporting the money—at risk—and will go the tax office's cashier to obtain a check or bill of exchange (generally at par) for the tax office in Châlons, up to the amount which it has available in Châlons. If they need to send additional sums to Châlons, they will go to the banker who has, at his disposal, the rents of the Paris nobility who own estates in that district. This banker will furnish them, like the tax office's cashier, with bills of exchange to be cashed with his correspondent banker in Châlons, up to the amount which he has at his disposal and that must otherwise be sent from Châlons to Paris. This offsetting will also be made at par between the agents who request that their money be sent to Châlons, as well as from the nobility who ask to have their money brought to Paris from Châlons,

unless the banker tries to make a small profit from the transaction for his trouble. If the banker also has at his disposal money in Châlons from the sale of the merchandise imported from Paris, he will also furnish bills of exchange for this amount.

However, in our example, the agents for the Châlons' merchants still have 25,000 livres in Paris, which they must send to Châlons, in addition to all the sums mentioned above. If they offer this money to the tax office's cashier, he will reply that he has no more funds in Châlons, and that he cannot supply them with bills of exchange or checks to that city. If they offer the money to the banker, he will tell them that he has no more funds in Châlons from which he can draw, but if they will pay him three percent of the exchange, he will provide a bill of exchange. They will offer one or two percent, and will settle at two and half, unable to do better. At this price, the Banker will give them bills of exchange, that is if they pay him two livres ten sols in Paris, he will supply a bill of exchange for 100 livres to be cashed by his correspondent bank in Châlons, payable in 10 or 15 days, so as to put his correspondent in a position to make the 25,000 livres payment he is obtaining from him. At this rate of exchange, he will send him the money by messenger or stagecoach in gold or, in absence of gold, in silver. This delivery of gold will cost ten livres for each bag of 1,000 livres, or in banker's jargon, one percent. He will pay his correspondent in Châlons a commission of five livres per bag of 1,000 livres, or one half percent, and he will keep one percent for his own profit. On this basis, the exchange between Paris and Châlons is at two and half percent above par, because one pays two livres ten sols for every 100 livres exchanged.

In a similar manner, the balance of trade is transported from one city to the other through bankers, and generally on a large scale. Not all those who bear the name of bankers are accustomed to these transactions, and many of them deal only in commissions and bank speculations. I will only count among bankers those who transmit money. They are the people who regulate such exchanges, where the price is based on the costs and risks of transporting currencies in different cases.

The exchange premium between Paris and Châlons is rarely more than two and half or three percent over or under par. But from Paris to Amsterdam, the exchange premium will be up to five or six percent when currencies have to be sent. The journey is longer, the risk is greater, and more correspondents and commission agents are involved. From India to

England, the price for transport will be ten to twelve percent. From London to Amsterdam, the exchange premium will hardly exceed two percent in times of peace.

In our present example, it could be said that the exchange in Paris for Châlons is two and half percent above par, and in Châlons, it could be said that the exchange for Paris is two and half percent below par, because in these circumstances, those who provide money in Châlons for a bill of exchange for Paris will give only 97 livres 10 sols to receive 100 livres in Paris. And it is evident that the city or place where the exchange is above par is in debt to that where it is below par, as long as the exchange premiums continue on this basis. Exchanging money from Paris to Châlons is two and half percent above par because Paris is in debt to Châlons and the money for this debt must be transported from Paris to Châlons. This is why when the exchange premium is commonly below par in one city as compared with another, it may be concluded that this first city has a balance of trade with the other.[135] When the exchange premium in Madrid or Lisbon is above par for all other countries, it shows that these two capitals must send specie to these other countries.

In all places and cities that use the same money and the same gold and silver specie like Paris and Châlons-sur-Marne, or London and Bristol, the exchange premium is known and expressed by giving and taking a certain percent above or below par. When 98 livres are paid in one place to receive 100 livres in another, it is said that exchange premium is about two percent below par. When 102 livres are paid in one place to receive only 100 livres in another, it is said that the exchange premium is exactly two percent above par. When 100 livres are given in one place for 100 livres in another, it is said that the exchange is at par. There is no difficulty or mystery in all this.

[135] Higgs wrote that "when exchange is commonly seen to be below par in one city as compared with another it may be concluded that this first city owes a balance of trade to the other." This would be a mistake as the first city has a positive balance of trade in that it provided the other city more goods than it received and is owed this balance. The mistake is also in the original French edition. Hayek attributes the mistake to a printers error, which is possible, but not as likely as an error by a manuscript copyist. We have strong reasons to believe the French edition is not based on Cantillon's own manuscript, but on a copy. This is a common error, but it is highly unlikely that Cantillon himself would make such an error because of his familiarity with and experience in these markets.

When the regulation[136] of exchange occurs between two cities or places where the money is different, where the coins have different sizes, fineness, forms, and names, the nature of exchange seems at first more difficult to explain, though in reality, this exchange differs from that between Paris and Châlons only in the jargon used by bankers. In Paris, one speaks of the Dutch exchange premium by reckoning the écu (equal to three livres) against so many Dutch deniers, but the parity of exchange between Paris and Amsterdam is always 100 ounces of gold or silver against 100 ounces of gold or silver of the same weight and fineness. One hundred and two ounces paid in Paris to receive 100 ounces in Amsterdam always comes to two percent above par. The banker who transports the balance of trade must always know how to calculate parity. But in the language of foreign exchange, the price of exchange in London with Amsterdam is made by giving a pound sterling in London to receive 35 escalins at a Dutch bank: with Paris, by giving 30 deniers or pence sterling in London to receive one écu or three livres tournois in Paris. This way of speaking does not reveal whether exchange is above or below par, but the banker who transmits the balance of trade understands it and knows how much foreign money he will receive for specie of his own country, which he is transporting.

Whether we fix the exchange premium in London for English silver in Rubles from Moscow, in Marks from Hamburg, in Rixdollars[137] from Germany, in Livres from Flanders, in Ducats from Venice, in Piastres from Genoa or Leghorn,[138] in Millreis or Crusadoes from Portugal, in Pieces of Eight from Spain, or Pistoles, etc., the parity of exchange for all these countries will be always 100 ounces of gold or silver against 100 ounces; and if, in the language of exchange, one gives more or less than this parity, it is the same as saying that the exchange is so much above or below par, and we will always know whether or not England owes a balance to the place with which the exchange is settled, just as we know in our example between Paris and Châlons.

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[136] Remember that when he uses the word regulation he is not speaking of government regulation, but of market regulation.

[137] Rixdollar was the English term for silver coins used throughout northern Europe which were originally based on the Reichsthaler. This was a standard thaler of the Holy Roman Empire and the mispronouciation of thaler in the American colonies is the basis for the word "dollar."

[138] The city of Livorno Italy, just southeast of Genoa on the Mediterranean Sea.

### Châlons Balance of Trade with Paris

| Paris | | Châlons |
|---|---|---|
| 30,000 oz. silver | ← | Wine from Châlons |
| – 5,000 oz. silver Parisian goods | → | |
| – 10,000 oz. silver paid in taxes | | |
| – 10,000 oz. silver paid in rents | | |
| 5,000 oz. silver balance of trade owed to Châlons | | |

Châlons wineries sell 30,000 oz. of silver worth of wine to the people of Paris who, in turn, sell the people of Châlons 5,000 oz. of goods. Of the 30,000 oz. on account in Paris, 5,000 oz. are transferred to the merchants who sold goods to the people of Châlons, 10,000 is transferred to the government to pay the taxes for the people of Châlons, and 10,000 oz. are transferred to the property owners living in Paris to pay the rents they are owed.

All this is done by the use of bills of exchange. The remaining 5,000 oz. must be paid in silver, which must be physically moved from Paris to Châlons. Châlons has a balance of trade and Paris owes a balance of trade. The banker gives bills of exchange to the wine merchants for a 2.5% fee who in turn sends them to the winery owners who can then cash them at local banks after the silver arrives from Paris.

# Chapter Three

## Further Explanations on the Nature of Exchanges

**Abstract:** Exchange rates are explained as a function of the balance of trade and other factors. A trade deficit can cause your money to exchange below par, while a trade surplus will cause it to exchange above par. In fact, the exchange rate, above and below par, is an indicator of the general balance of trade in a country. An attempt to prohibit the export of gold necessary to pay for deficits only hurts the economy.

WE HAVE SEEN THAT EXCHANGES are regulated by the intrinsic value of specie, i.e., at par, and that their variation arises from the costs and risks of transporting money from one place to another when a balance of trade has to be sent in specie. There is no need for reasoning with something we can observe in fact and practice. Bankers sometimes introduce refinements into this practice.

If England owes France 100,000 ounces of silver for the balance of trade, if France owes 100,000 ounces to Holland, and Holland 100,000 ounces to England, these three amounts may be offset by bills of exchange between the respective bankers of these three states, without the need to send silver on any side.

If Holland sends goods worth 100,000 ounces of silver to England in January and England only sends goods worth 50,000 ounces to Holland during the same month (I'm assuming that the sale and payment are made in January on both sides), a balance of trade of 50,000 ounces will be due to Holland,

and the exchange rate with Amsterdam, in January, will be two or three percent above par in London, or in the language of exchange, the exchange rate with Holland, which was at par or at 35 escalins to the pound sterling in London in December, will rise to about 36 escalins in January. However, after the bankers send this balance of 50,000 ounces to Holland, the exchange rate with Amsterdam will naturally fall back to par in London, or to 35 escalins.

However, an English banker may foresee in January, if an extraordinary quantity of goods is being sent to Holland, that Holland will owe a considerable amount to England at the time of payment in March. Instead of sending the 50,000 écus or ounces due to Holland in January, he may provide bills of exchange on his Amsterdam correspondent bank that will be payable two months later. By this method, he will profit on the exchange, which was above par in January and will be below par in March, and gain doubly without sending a sol to Holland.

This is what bankers call speculations, which often cause variations in the exchange rates for short periods of time, independently of the balance of trade. In the long run, however, we must return to this balance which makes the rules of exchange constant and uniform. And though the speculations and credits of bankers may sometimes delay the transport of the sums that one city or state owes to another, in the end, it is always necessary to pay the debt and send the balance of trade in specie to the place where it is due.

If England regularly gains a balance of trade with Portugal and always loses a balance with Holland, the exchange rate premium between Holland and Portugal will make this evident. In London, the exchange rate with Lisbon will be below par as Portugal is in debt to England. It will also be evident that the exchange rate with Amsterdam is above par because England is in debt to Holland. However, the amount of the debt cannot be seen from the exchange rates. It cannot be seen whether the balance of silver withdrawn from Portugal will be greater or less than what has to be sent to Holland.

However, there is one thing which will always be apparent in London, whether England gains or loses the general balance of her trade (the general balance should be understood as the net balance between England and all the foreign states which trade with her), as seen in the price of gold and silver, but especially of gold (now that the proportion between gold and silver in coined money differs from the market rate, as will be explained in

the next chapter). If the price of gold in the London market, which is the center of English trade, is lower than the price at the Tower[139] where guineas[140] or gold coins are minted, or at the same price as these coins intrinsically, and if gold is taken to the Tower in exchange for their value in guineas or minted coins, it is a certain proof that England is a gainer in the general balance of her trade. It proves that the gold taken from Portugal suffices not only to pay the balance which England sends into Holland, Sweden, Muscovy,[141] and the other states where she is indebted, but that there remains some gold to be sent to the Mint, and the amount or sum of this general balance of trade is known from the amount of specie coined at the Tower of London.

But if gold is sold in the London market above the Tower price, which is usually £3.18.0 an ounce, the metal will no longer be taken to the Mint, and this is a certain sign that not enough gold is being received from abroad (from Portugal, for instance) compared to the amount necessary to send to other countries that England is in debt to. This is proof that the general balance of trade is against England. However, this would not be known except for the prohibition in England against sending gold coins out of the country. This prohibition is the reason why the timid London bankers prefer to buy gold metal (which they are allowed to send abroad) at £3.18.0 up to £4 an ounce for export rather than sending out guineas or gold coins at £3.18.0 illegally at the risk of confiscation. Some of them take this risk, others melt the gold coins to send out as bullion, so that it is impossible to judge how much gold England loses when the general balance of trade is against her.

In France, they deduct the cost of minting, which is usually 1.5 percent. In other words, the price for coins is always higher than that of uncoined metal. To know whether France loses in the general balance of her trade, one only needs to know whether bankers send French coins abroad. If they do so, it is a proof that they cannot purchase enough bullion to export, since the bullion, though at a lower price than coined money in France, is of greater value than these coins in foreign countries by at least 1.5 percent.

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139 The Tower refers to the Tower of London where the mint was housed.

140 A gold coin nicknamed after the place in Africa where much of the gold came from.

141 This refers to Moscow or the Grand Dutchy of Moscow, but by Cantillon's time it was used to describe the Russian Empire of Peter the Great.

Exchange rates rarely diverge from the balance of trade between one country and all others, and this balance is merely the difference in value between the commodities and merchandise which a state sends to other countries and receives from them. Yet, there are often circumstances and incidental causes for which considerable sums are conveyed from one state to another aside from the question of merchandise or trade, and these causes affect the exchange rates just as the balance of trade would do.

The sums of money which one state sends into another for its secret services and political purposes, subsidies to allies, the upkeep of troops, ambassadors, noblemen who travel, etc., the capital which the inhabitants of one state send to another to invest in public or private projects, the interest which these inhabitants receive annually from such investments, etc., are all of this nature. The exchange rates fluctuate with all these incidental causes and follow the same rule as the transportation of money. In considering the balance of trade, matters of this kind are not separated, and indeed it would be very difficult to separate them. They have most certainly an influence on the increase and decrease of money circulating in a state and on its comparative strength and power.

My subject does not allow me to further develop the effects of these incidental causes. I confine myself always to the simple views of commerce so as to not complicate my subject, which is already complex by the multiplicity of related facts.

Exchange rates rise more or less above par in proportion to the greater or smaller costs and risks of transporting money. That being said, they naturally rise much more above par in cities or states where it is forbidden to export money than in those where its export is free.

Assume that Portugal annually consumes considerable quantities of woolen and other manufactured goods from England, for its own people as well as for those of Brazil. It pays for them partly in wine, oils, etc., but for the surplus payment, there is a regular balance of trade sent from Lisbon to London. If the king of Portugal strictly prohibits under penalty, not only of confiscation but also of life, the transport of any gold or silver out of his states, the terror of this prohibition will, in the first place, stop the bankers from sending the balance. The money for English manufactures will be kept in Lisbon. English merchants, unable to receive payments from Lisbon, will stop sending cloth there. The result will be that cloth will become extraordinarily expensive. Though their price has not gone up in England,

they cease to be sent to Lisbon because their value cannot be recovered. In order to have these cloths, the Portuguese nobility, and others who cannot do without them, will offer twice the usual price, but as they cannot get enough of them without sending money out of Portugal, the increased price of cloth will become the profit of any one who, in spite of the prohibition, will export gold or silver. This will encourage various Jews[142] and others to take gold and silver to English vessels in the port of Lisbon, even at the risk of their lives. At first, they will gain 50 to 100 percent in this traffic and this profit is paid by the Portuguese in the high price they give for the cloth. They will gradually familiarize themselves with this maneuver, after having often practiced it successfully, and eventually, money will be put on board English ships for a payment of one to two percent.

The king of Portugal lays down the law or prohibition. His subjects, even his courtiers, pay the cost of the risk run to circumvent and elude it. Therefore, no advantage is gained by such a law. On the contrary, it causes a real loss to Portugal since more of the state's money is sent abroad than if there were no such law.

Those who gain by this maneuver, whether Jews or others, often send their profits abroad, and when they have enough of them or when they get scared, they often follow their money abroad.

If some of these lawbreakers were caught in the act, their goods confiscated and their lives taken, these events, instead of stopping the export of money, would only increase it, because those who formerly were satisfied with one or two percent for exporting money, will ask 20 or 50 percent, and so the export must always go on to pay the balance.

I do not know whether I have succeeded in making these reasons clear to those who have no knowledge of trade. I know that for those who understand exchange rates, nothing is easier to comprehend, and they are rightly astonished that those who govern states and administer the finances of great kingdoms have so little knowledge of the nature of exchange rates as to forbid the export of bullion and coins of gold and silver.

The only way to keep them in a state is to conduct foreign trade so that the balance is not adverse to the state.

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[142] Jews were traditionally active in the money and banking trade due to the prohibition of usury imposed by the Catholic Church in Spain and Portugal.

# Chapter Four

## The Variations in the Proportion of Values with Regard to the Metals Used as Money

**Abstract:** The price of gold and silver and the ratio between them is determined by markets and is also based on their usefulness, cost of production, and transportation costs. When government mints establish a fixed ratio between gold and silver money that is not based on market prices, the overvalued metal will be driven from circulation. This is commonly referred to as "Gresham's Law" where bad money drives out good money.

IF METALS WERE FOUND as easily as water commonly is, everyone would take what he wanted and they would hardly have any value. The most abundant metals that cost the least to produce are also the cheapest. Iron seems the most necessary, but as it is commonly found in Europe and produced with less trouble and labor than copper, it is much cheaper.

Copper, silver, and gold are the three metals generally used as money. Copper mines are the most abundant and cost less in land and labor to produce. The richest copper mines today are in Sweden and more than 80 ounces of copper are needed there to pay for an ounce of silver. It is also to be observed that the copper extracted from some mines is more perfect and lustrous than what is obtained from others. The copper of Japan and Sweden is brighter than that of England. That of Spain was, in the time of the Romans, better than that of Cyprus. But gold and silver, regardless of where they are extracted, are always of the same perfection when refined.

The value of copper, as with everything else, is proportional to the land and labor which enter into its production. Beside the ordinary uses to which it is put, like pots and pans, kitchen utensils, locks, etc. copper is used as money in most states for small purchases. In Sweden it is even used in large payments when silver is scarce. During the first five centuries of Rome, it was the only money. Silver only began to be employed in exchange in the year [of Rome or A.U.C.[143]] 484 (269 B.C.). The ratio of copper to silver was then rated in the mints at 72 to 1; in the coinage of 512 (241 B.C.) at 80 to 1; in 537 (216 B.C.), 64 to 1; in 586 (167 B.C.) at 48 to 1; in 663 (90 B.C.) by Drusus and 672 (81 B.C.) by Sulla at 53 to 1; in 712 (42 B.C.) by Marcus Antonius and 724 (30 B.C.) by Augustus at 56 to 1; in 54 A.D. under Nero at 60 to 1; in 160 A.D. under Antoninus at 64 to 1; in the time of Constantine 330 A.D. at 120 and 125 to 1; in the age of Justinian about 550 A.D. at 100 to 1. Since then, it has always varied below the ratio of 100 to 1 in the European mints.[144]

Today, because copper is only used as money for small purchases, whether alloyed with carbon to make brass as in England, or with a small portion of silver as in France and Germany, it is generally rated in the proportion of 40 to 1, though the market price of copper to that of silver is ordinarily at 80 or 100 to 1. The reason is that the cost of coining is generally deducted from the weight of the copper. When there is not too much of this small money in circulation for small transactions in the state, coins of copper or copper and alloy are used without difficulty in spite of their defect in intrinsic value. However, when being used for exchanges with a foreign country, they will only be taken for the weight of the copper and the silver alloy. Even in states where there is too much copper in circulation for small transactions, when the greed or ignorance of the governors mandate laws that require a certain amount be received in large payments, it is unwillingly accepted. Small coins lose a certain percentage when traded for silver, as is the case with billon coins and ardites in Spain,[145] or when they are used for large payments. Yet small coins can always be

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[143] An alternative dating system which begins with the establishment of Rome in 753 B.C.

[144] The dates given above which are not followed by A.D. are in terms of A.U.C. (Ab urbis condita) or in the years of Rome where the year one is 753 B.C. Hence the year 484 is 269 B.C. and the year 724 is 30 B.C.

[145] Billon coins were small copper coins that were used in France and that were similar to Spain's ardite coins.

used without difficulty for small purchases because the value of the payments is small and therefore the loss is even smaller. This is why they are accepted without difficulty, and why copper is exchanged for small silver coins above the weight and intrinsic value of copper within a state, but not with other states, because each state has the wherewithal to carry on its small exchanges with its own copper coins.

Gold and silver, like copper, have a value proportional to the land and labor necessary for their production. If the public assumes the cost of minting these metals, their value as bars and coins is identical, their market value and their mint value are the same, and their value in the state and in foreign countries is always alike, depending on the weight and fineness; that is on weight alone if the metals are pure and without alloy.

Silver mines have always been found to be more abundant than those of gold, but not equally in all countries or at all times. Several ounces of silver have always been needed to buy one ounce of gold, sometimes more and sometimes less, according to the abundance of these metals and the demand for them. In the year A.U.C. 310 (443 B.C.), 13 ounces of silver were needed in Greece to buy an ounce of gold, i.e. gold was to silver as 1 to 13; A.U.C. 400 (353 B.C.) or thereabouts, 1 to 12; A.U.C. 460 (393 B.C.), 1 to 10 in Greece, Italy, and the whole of Europe. This ratio of 1 to 10 seems to have persisted for three centuries to the death of Augustus, A.U.C. 767 or 14 A.D. Under Tiberius, gold became scarce or silver more plentiful, and the ratio gradually rose to 1 to 12, 12½, and 13. Under Constantine, 330 A.D., and Justinian, 550 A.D., it was 1 to 14⅕. Later history is more obscure. Some authors think it was 1 to 18 under certain French kings. In 840 A.D., under Charles the Bald, gold and silver coins were struck at 1 to 12. Under St Louis, who died in 1270, the ratio was 1 to 10; in 1361, 1 to 12; in 1421, over 1 to 11; in 1500, under 1 to 12; about 1600, 1 to 12; in 1641, 1 to 14; in 1700, 1 to 15; in 1730, 1 to 14½.

The quantity of gold and silver brought from Mexico and Peru in the last century has not only made these metals more plentiful, but has also increased the value of gold compared to silver, which has been more abundant, so that in the Spanish mints, following the market prices, the ratio is fixed at 1 to 16. The other European states have closely followed the Spanish price in their mints, some at 1 to 15⅞, others at 15¾, 15⅝, etc., following the ideas and views of the directors of the Mints. But since Portugal has drawn great quantities of gold from Brazil, the ratio has begun to fall again

if not in the mints at least in the markets, and this gives a greater value to silver than in the past. Moreover, a good deal of gold is often brought from the East Indies in exchange for the silver sent there from Europe, because the ratio is much lower in India.

In Japan, where abundant silver mines are found, the ratio of gold to silver is today 1 to 8; in China 1 to 10; in the other countries this side of the Indies 1 to 11, 1 to 12, 1 to 13, and 1 to 14, as we get nearer to the West and to Europe. But if the mines of Brazil continue to supply so much gold, the ratio may eventually fall to 1 to 10, even in Europe, which seems natural to me, if anything but chance is the guide for the ratio. When the Roman republic exploited all the gold and silver mines in Europe, Asia and Africa, the ratio of 1 to 10 was the most consistent.

If all the gold mines regularly produced a tenth of what the silver mines produce, the ratio between these two metals would not necessarily be 1 to 10. The ratio always depends on the demand and on the market price. Rich people might prefer to carry gold coins in their pockets rather than silver, or they might develop a taste for gildings and gold ornaments rather than silver, thus increasing the market price of gold.

Neither could the ratio between these metals be determined by considering the quantity found in a state. Assume that the ratio is 1 to 10 in England and that the quantity of gold and silver in circulation is 20 million ounces of silver and 2 million ounces of gold; that would be equal to 40 million ounces of silver. Now assume that 1 million ounces of gold are exported from England out of the 2 million, and 10 million ounces of silver are imported in exchange; there would then be 30 million ounces of silver and only 1 million ounces of gold, still equivalent in all to 40 million ounces of silver. If there are 30 million ounces of silver and 1 million ounces of gold, and if the quantity of the two metals decided the ratio, it would be 1 to 30, but that is impossible. The ratio in the neighboring countries is 1 to 10, and it would therefore cost only 10 million ounces of silver, with a little extra for the cost of transportation, to bring back 1 million ounces of gold to the state in exchange for 10 million ounces of silver.

Therefore, to determine the ratio between gold and silver, the market price is alone decisive. The number of those who need one metal in exchange for the other, and of those who are willing to make such an exchange, determines the ratio. It often depends on the attitudes of men;

the bargaining is done approximately and not geometrically. But, I do not believe that one can imagine any rule but this one to determine the ratio. At least we know that in practice it is the one which decides, as in the price and value of everything else. Foreign markets affect the price of gold and silver more than they do the price of any other goods or merchandise because nothing is transported with greater ease and less waste. If there were a free and regular trade between England and Japan and if a number of ships were regularly employed in this trade and the balance of trade were in all respects equal, i.e., if the goods exported from England to Japan were equal to the goods imported from Japan in terms of price and value, it would cause gold to be exported from Japan in exchange for silver, and the ratio between gold and silver in Japan would be made the same as it is in England, subject only to the risks of navigation, because the costs of transportation is assumed here to be paid by the trade in goods.

Taking the ratio at 1 to 15 in England and 1 to 8 in Japan, there would be more than 87 percent to gain by carrying silver from England to Japan and bringing back gold. But this difference is not enough to pay for the costs of such a long and difficult voyage. It pays better to bring back merchandise from Japan rather than gold in exchange for silver. It is only the costs and risks of the transport of gold and silver that can make a difference in the ratio between these metals in different states. In the nearest state, the ratio will differ very little, with a difference from one state to another of 1, 2 or 3 percent, but from England to Japan, the total of all these differences will amount to more than 87 percent.

It is the market price which decides the ratio of the value of gold to that of silver. The market price is the base for this proportion in the value assigned to gold and silver coins. If the market price varies considerably, the coinage must be reformed to follow the market rate. If this is not done, confusion and disorder will emerge because the price of one or the other metal coins will rise above its specified monetary value. There are an infinite number of examples of this in antiquity. There is a quite recent one in England under the laws made at the London Mint. There an ounce of silver, eleven-twelfths fine, was worth 5 shillings 2 pence sterling. Since the ratio of gold to silver (which had been fixed at 1 to 16 in imitation of Spain) has fallen to 1 to 15 and 1 to 14 1⁄2, an ounce of silver sold at 5 shillings 6 pence sterling, while the gold guinea continued to circulate at 21 shillings 6 pence sterling. This caused the export from England of all the silver

crowns, shillings and sixpences which were not worn by circulation. Silver money became so scarce in 1728 (only the most worn pieces remained) that people had to exchange a guinea at a loss of nearly 5 percent. The trouble and confusion thus produced in trade and circulation forced the Treasury to request that the celebrated Sir Isaac Newton, director of the Tower Mint, make a report on the measures he thought most suitable to remedy this chaos.

Nothing could have been easier. It only required following the market price of silver in coining silver at the Tower. Whereas the ratio of gold to silver was traditionally by the laws and regulations of the Tower Mint set at 1 to 15 3⁄4, it was only necessary to make the silver coins lighter in the proportion of the market price, which had fallen below 1 to 15, and then to anticipate the changes which the gold from Brazil would bring in the ratio between these two metals. It might even have been possible to fix it on the basis of 1 to 14 1⁄2, as was done in 1725 in France, and as they will be forced to later do in England.

It is true that the coinage in England might equally have been adjusted to the market price and ratio by diminishing the nominal value of gold coins. This was the policy adopted by Sir Isaac Newton in his report, and by the Parliament in response to this report. But, as I shall explain, it was the least natural and the most disadvantageous policy. Firstly, it was more natural to raise the price of silver coins, because the public had already done so in the market. The ounce of silver, which was worth only 62 pence sterling at the Mint, was worth more than 65 pence in the market, and all the silver money was being exported except for the coins that were considerably reduced in weight due to wear in circulation. On the other hand, it was less disadvantageous to the English nation to raise the silver money than to lower the gold money when considering the sums that England owes to foreigners.

If it is assumed that England owes foreigners 5 million sterling of capital, invested in the public funds, it may be equally assumed that foreigners paid this amount in gold at the rate of 21 shillings 6 pence a guinea or in silver at 65 pence sterling the ounce, according to the market price.

These 5 millions have therefore cost foreigners 4,651,163 guineas, at 21 shillings 6 pence per guinea; but now that the guinea is reduced to 21

shilling, the capital to be repaid is 4,761,904 guineas, a loss to England of 110,741 guineas, without counting the loss on the annual interest paid.

Newton told me in answer to this objection that according to the fundamental laws of the Kingdom, silver was the true and only monetary standard, and that as such, it could not be altered.

It is easy to answer that the public has altered this law by their practice and the price of the market and therefore, it had ceased to be a law. Under these circumstances, there was no need to adhere scrupulously to it to the detriment of the nation and to pay foreigners more than their due. If gold had not been considered true money, it would have adjusted to the change, as in Holland and China, where gold is considered merchandise rather than money. If the silver coins had been raised to their market price without touching gold, there would have been no loss to the foreigners, and there would have been plenty of silver coins in circulation. They would have been coined at the Mint, whereas now no more will be coined until some new arrangement is made.

By reducing the value of gold (brought about by Newton's report from 21 shillings 6 pence to 21 shillings), an ounce of silver which was sold in the London market before at 65 pence and 65½ pence, only truly sold at 64 pence. But as it was coined at the Tower, an ounce was valued in the market at 64 pence and if it was taken to the Tower to be coined, it would be worth no more than 62 pence, so no more was taken there. A few shillings or fifths of crowns have been struck at the expense of the South Sea Company, losing the difference of the market price; but they disappeared as soon as they were put into circulation. Today, no silver coins of full mint weight can be seen in circulation, only worn coins that do not exceed the market price in weight are circulating.

However, the value of silver continues to rise imperceptibly in the market. The ounce, which was worth only 64 pence after the reduction of which we have spoken, has risen again to 65½ and 66 in the market; and in order to have silver coins in circulation and coined at the Tower, it would be necessary again to reduce the value of the gold guinea from 21 shillings to 20 shillings and to lose to foreigners double of what is lost already, unless it is decided to follow the natural course and to adjust silver coins to the market price. Only the market price can set the ratio of the value of gold and silver, as is the case for all other values. Newton's reduction of the

guinea to 21 shillings was designed only to prevent the disappearance of the light and worn coins which remained in circulation, and not to fix gold and silver coins on the true ratio of their price. I mean by their true ratio that which is fixed by market prices. This price is always the touchstone in these matters. Its variations are slow enough to allow time to regulate the mints and prevent disorders in the circulation.

In some centuries, the value of silver rises slowly against gold, while in others the value of gold rises against silver. This was the case in the age of Constantine, who reduced all values to that of gold as the more permanent. However, the value of silver is generally the more permanent and gold is more subject to variation.

# Chapter Five

## The Augmentation and Diminution of the Denomination of Money

**Abstract:** Raising and lowering the nominal value of money is shown not to undermine the theory of the value of money. In contrast, such measures are shown to be methods by which the prince acquires resources by deceiving individuals about the value of money. The process causes chaos in the market.

ACCORDING TO THE PRINCIPLES we have established, the quantity of money in circulation fixes and determines the price of everything in a state, taking into account the speed of circulation.

We often see, however, in the augmentations and diminutions practiced in France, such strange variations that it might be assumed that market prices correspond to the coin's nominal value rather than to its quantity in exchange; the quantity of livres tournois in money of account[146] rather than the quantity of marks and ounces, and this seems directly opposed to our principles.

Assume, as happened in 1714, that the one-ounce silver coin, the ecu, which was valued at 5 livres is lowered by an order of the king at a rate of one percent per month over a period of 20 months to a nominal value of

[146] During this time period, they had a money of account and all sorts of money of exchange. Today it would be like buying a Toyota for $30,000 but paying for it with $30,000 worth of Japanese Yen.

4 livres instead of 5. Let us see what will be the natural consequences of this with respect to the genius of the nation.

All those who owe money will quickly pay their debts so as not to lose by the diminutions. Entrepreneurs and merchants find it easy to borrow money so that even the least able and the least creditworthy will expand their business. They borrow money with what they believe is no interest and load themselves with merchandise at current prices. The strength of their demand even causes prices to rise. These merchants then find they have a hard time selling their merchandise for money that is losing its nominal value. They even turn towards foreign merchandise and import considerable quantities of it for the consumption of several years. All this causes money to circulate more rapidly and raises the price of everything. Then, high prices prevent the foreigner from importing merchandise from France as usual. France keeps her own merchandise and at the same time imports great quantities. This double operation is the reason why considerable amounts of specie must be sent abroad to pay the balance.

The exchange rates never fail to show this disadvantage. Exchange rates are commonly seen at six and ten percent against France during these diminutions. Informed people in France hoard their money during these times. The king finds means to borrow a large amount of money on which he willingly loses from the diminution because he plans to compensate himself by an augmentation at the end of the diminutions.

To this end, after several diminutions, they begin to hoard money in the king's treasury by postponing payments, pensions, and army pay. In these circumstances, money becomes extremely rare at the end of the diminutions both because of the sums hoarded by the king and various individuals, and because the nominal value of the coin is diminished. The amounts sent abroad also contribute greatly to the scarcity of money, and this scarcity gradually reduces the prices of the merchandise (which entrepreneurs had stocked up on) by 50 or 60 percent below the prices prevailing at the time of the first diminutions. Circulation [i.e., the economy] falls into convulsions. Hardly enough money can be found to send to market. Many entrepreneurs and merchants go bankrupt and their merchandise is sold at bargain prices.

Then the king increases anew the coinage, setting the new ecu, or new issue of one ounce silver coins, equal to 5 livres, and begins to use this new

coinage to pay the troops and the pensions. The old coins are taken out of circulation and received at the mint at a lower nominal value and therefore the king profits by the difference.

But all the sums of new coinage that come from the mint do not restore the abundance of money in circulation. The amounts kept hoarded by individuals and those sent abroad greatly exceed the nominal increase on the coinage that comes from the mint.

The cheapness of goods in France begins to draw in money from foreigners, who find them 50 or 60 or more percent cheaper, so gold and silver are sent to France to buy them. In this way the foreigner who sends his bullion to the mint easily recoups the fees paid at the mint. He finds the double advantage of the low price of the goods he buys, and the loss of the mint charge really falls on the French in the sale of their goods to the foreigners. They have enough merchandise for several years' consumption. They resell to the Dutch, for example, the spices which they bought from them for two-thirds of what they paid. All this takes place gradually, and the foreigner decides to buy these goods from France only because of their cheapness. The balance of trade, which was against France at the time of the diminutions, turns in her favor at the time of the augmentation, and the king is able to profit by 20 percent or more on all the bullion brought into France and taken to the mint. As foreigners now owe a trade balance to France and do not have in their country coins of the new issue, they must take their bullion and coins of the old issue to the mint to obtain new coins for payment. But this trade balance, which foreigners owe to France, arises only from the goods that they import from it at low prices.

France is all round the dupe of these operations. She pays very high prices for foreign goods during the diminutions and sells them back to the same foreigners at very low prices at the time of the augmentation. She sells her own merchandise at low prices, which she had kept so high during the diminutions, and so it would be difficult for all the money which left France during the diminutions to come back during the augmentation. If coins of the new issue are counterfeited abroad, as is nearly always the case, France loses the 20 percent which the king has established as the mint charge. The gain goes again to the foreigner, who also profits by the low prices of goods in France.

The king makes a considerable profit by the mint tax, but it costs France three times as much to enable him to make this profit.

It is well understood that when there is a current balance of trade in favor of France against the foreigner, the king is able to raise a tax of 20 percent or more by a new coinage and an increase in the nominal value of coins. But if the trade balance was against France at the time of this new coinage and augmentation, the operation would have no success and the king would not derive a great profit from it. The reason is that in this case, it is necessary to continually send money abroad. But the old ecu is as good as the new in foreign countries. That being so, Jews and bankers will give a premium or bonus in secret for the old coins and the individual who can sell them above the mint price will not take them there. At the mint they give him only about 4 livres for his ecu, but the banker will give him at first 4 livres 5 sols, and then 4 livres 10, and at last 4 livres 15. And this is how it may happen that an augmentation of the coinage may lack success. It can hardly happen when the augmentation is made after the diminutions indicated, because then the balance naturally turns in favor of France, as we have explained.

The experience of the augmentation of 1726 may serve to confirm all this. The diminutions that had preceded this augmentation were made suddenly and without warning, which prevented the ordinary operations of diminutions. This prevented the trade balance from turning strongly in favor of France at the augmentation of 1726. Few people took their old coins to the mint, and the profit of the mint tax, which was in view, had to be abandoned.

It is not within my subject to explain the reasoning of public administrators for lowering the coinage suddenly, nor the reasons that deceived them in their project of the augmentation of 1726. I have mentioned the increases and decreases in France only because their results seem to sometimes clash with the principles I have established in that the abundance or scarcity of money in a state raises or lowers all prices proportionally.

After explaining the effects of lowering and raising the coinage, as practiced in France, I maintain that they neither destroy nor weaken my principles. If I am told that what cost 20 livres or 5 ounces of silver before the lowering described above does not even cost 4 ounces or 20 livres of the new money after the augmentation, I will assent to this without depart-

ing from my principles because, as I have just explained, there is less money in circulation than there was before the diminutions. The difficulties of exchange during the times of these operations cause variations in the prices of things and the interest rate on money which cannot be taken as a rule in the ordinary principles of circulation and exchange.

The change in the nominal value of money has always been brought about by some disaster or famine in the state, or by the ambition of some prince or individuals. In the year 157 A.U.C. (596 B.C.), Solon increased the nominal value of the drachma of Athens after a sedition and abolition of debt. Between 490 and 512 A.U.C. (263-241 B.C.), the Roman Republic increased the nominal value of its copper coins several times, so that their "as" [i.e., coin] came to be worth six. The pretext was to provide for the needs of the state and to pay the debts incurred in the first Punic War. This did not fail to cause great confusion. In 663 A.U.C. (90 B.C.), Livius Drusus, Tribune of the people, increased the nominal value of coins by one-eighth, reducing its fineness[147] by the same, which gave counterfeiters an occasion to introduce confusion into the economy. In 712 A.U.C. (41 B.C.), Mark Antony increased the nominal of silver by 5 percent by mixing iron with the silver in order to meet the needs of the Triumvirate.[148] Many Emperors subsequently debased or increased the nominal value of their coins. The kings of France at different times have done likewise. This is why the livre tournois, which was once worth one pound of silver, has sunk to so little value. These proceedings have never failed to cause disorder in states. The nominal value of coins matters little or not at all provided it be permanent. The pistole of Spain is worth 9 livres or florins in Holland, about 18 livres in France, 37 livres 10 sols in Venice, 50 livres in Parma. Values are exchanged between these different countries in the same proportion. The price of everything increases gradually when the nominal value of coins increases. The actual quantity in terms of weight and fineness of the coins is the base and regulator of values, taking into account the rapidity of circulation. A state neither gains nor loses by the raising or lowering [of the nominal value] of these coins so long as it keeps the quantity of them the same, though individuals may gain or lose depending

[147] Fineness refers to purity or the percentage of precious metal (i.e. gold or silver) in the coin. So here Cantillon is referring to debasement.

[148] The Triumvirate represented the government established in 43 BC when the Empire was divided between Mark Anthony, Octavian, and Lepidus.

on their circumstances. People are full of false prejudices and misconceptions about the nominal value of their coins. We have shown in the chapter on exchanges that the price and fineness of the coins of different countries, marc for marc and ounce for ounce, is what ultimately rules. If an increase or decrease of the nominal value changes this rule for a time in France, it only causes a temporary crisis or time of difficulty in trade. It always returns, little by little, to intrinsic values, on which prices are necessarily established, both in the market and in foreign trade.

# Chapter Six

## Banks and their Credit

**Abstract:** Fractional-reserve banking is a system where the banks lend some of their deposits and earn interest. This increases the amount of money in circulation compared to warehouse or 100% reserve banking. This utility of banking comes at the risk of being unable to withdraw your deposits. The amount that can be lent into circulation depends on the type of bank and the needs of the depositors. There are goldsmith-bankers, the typical banker who issues banknotes, and the national bank.

If one hundred thrifty gentlemen or property owners who save money every year to occasionally buy land deposit 10,000 ounces of silver with a goldsmith or banker in London, they will receive in return notes payable on demand. They do this to avoid the trouble of keeping this money in their houses and to prevent thefts. They will often leave their money there for a long time, and when they make a purchase, they will notify the banker some time in advance to have their money ready when the formalities and legal documents are complete.

In these circumstances, the banker will often be able to lend throughout the year 90,000 ounces of the 100,000[149] he owes and will only need to keep on hand 10,000 ounces to meet all the withdrawals. He deals with wealthy and economical persons; so as fast as one thousand ounces is demanded of him from one hand, another thousand is brought to him

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[149] This is a preparation error. One hundred people depositing 10,000 ounces would result in 1,000,000 in deposits. This is probably a manuscript calculation error and it might be that they deposited 1,000 ounces, rather than 10,000.

from another hand. It is enough, as a rule, for him to keep on hand one-tenth of his deposits. There have been examples and experiences of this in London. Instead of the individuals in question keeping on hand the greatest part of 100,000 ounces all year round, the custom of depositing it with a banker causes 90,000 ounces of the 100,000 to be put back into circulation. This is the primary idea one can derive regarding the utility of this sort of bank. The bankers or goldsmiths contribute to the acceleration of the circulation of money. They lend it out at interest at their own risk and peril, and yet they are, or ought to be, always ready to cash their notes on demand.

If an individual needs to pay 1,000 ounces to another, he will give him a banker's note for that amount. This other person will perhaps not demand the money of the banker. He will keep the note and later give it to a third person in payment, and this note may pass through several hands for large payments and for a long time without any one demanding the money from the banker. It will be only someone who does not have complete confidence, or someone who has several small sums to pay, who will demand the money. In this first example, the cash reserve of a banker is only one-tenth of his business.

If 100 individuals or property owners deposit their income with a banker every six months as it is received, and then demand their money back when they have a need to spend it, the banker will be in a position to lend much more of the money that he owes and receives at the beginning of the half years, for a short term of some months, than he will be toward the end of these periods. And his experience with the conduct of his clients will teach him that he can hardly lend during the whole year more than about one half of the sums that he owes. Bankers of this kind will see their credit ruined if they fail for one instant to redeem the notes on their first presentation. When they are short of cash on hand, they will give anything to obtain money immediately. That is to say, they will pay a much higher interest than they receive on the sums they have lent. Hence, they make it a rule based on their experience to always keep enough money on hand to meet demands, and more rather than less. Many bankers of this kind (and they are the greatest in number) always keep on hand half the amounts deposited with them and lend the other half at interest and put

it into circulation. In this second example, the banker causes his notes of 100,000 ounces or écus to circulate with 50,000 écus.[150]

If he has a great flow of deposits and great credit, it increases confidence in his notes, and makes people less eager to cash them. However, it only delays his payments a few days or weeks or until the notes fall into the hands of persons who are not accustomed to dealing with him. He ought to always manage his business according to the practices of those who are accustomed to entrust their money to him. If his notes fall into the hands of those in his own business [i.e., banking], they will immediately want to withdraw the money from him.

If those who deposit money with the banker are entrepreneurs and merchants who regularly deposit large sums and soon thereafter draw them out, it will likely be the case that if the banker diverts more than one third of his cash he will find it difficult to meet these demands.

It is easy to understand by these examples that the sums of money which a goldsmith or a banker can lend at interest or divert from his cash are naturally proportional to the practices and conduct of his clients. While we have seen bankers who were safe with a cash reserve of one-tenth, others must keep nearly one-half or even two-thirds, though their credit might be as good as that of the first.

Some trust one banker, some another. The most fortunate is the banker whose clients are rich gentlemen looking for a safe place for their money without wishing to invest it at interest while they wait.

A general national bank has this advantage over the bank of a single goldsmith because there is always more confidence in it. The largest deposits are willingly brought to it, even from the most remote quarters of the city, and this generally leaves small bankers with only the deposits of petty sums from their neighborhood. Even the revenues of the State are deposited in it in countries where the prince is not absolute. And this, far from injuring credit and confidence in it, only serves to increase them.

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[150] This banker causes 100,000 in notes and 50,000 in silver to circulate while keeping 50,000 in silver on reserve at the bank to redeem deposits. This is the first step in what is now know as the money multiplier process. If the 50,000 of silver put into circulation were actually redeposited in other banks and all these banks kept 50% reserves the money multiplier would be two and ultimately the money supply could be brought to a total of 200,000 from the original 100,000 deposited.

If payments in a national bank are made by transfers or book credits, the advantage is that they are not subject to forgeries. But if the bank issues notes, false notes may be made and cause chaos. There will also be a disadvantage for those in the city who live far from the bank and who would rather pay and receive in money and not travel to the bank. This is especially so for those who live in the country. But if the bank notes are dispersed, they can be used near and far. In the national banks of Venice and Amsterdam, payment is only made in book credits, but in the one in London, it is made in credit, in notes, and in money, according to individual preferences. Today, London is the strongest bank.

Therefore, it should be understood that the advantage of all banks in a city, public or private, is to accelerate the circulation of money and to prevent so much of it from being hoarded, as it would naturally be for long time intervals.[151]

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[151] The final three chapters of the *Essai* are a thinly veiled attack on John Law and the Mississippi Company. Cantillon first shows that banks, including national banks, have some utility in accelerating the circulation of money. The mercantilists often thought that banks decreased circulation and that banks hurt the economy. Ultimately, Cantillon concludes that national banks, such as Law's, were of little utility in a large country like France and would ultimately be very harmful.

# Chapter Seven

## Further Explanations and Enquiries as to the Utility of a National Bank

**Abstract:** National Banks are of little utility and can be the source of economic chaos. The increase in the supply of money that they provide is relatively small and offers the same disadvantages as increases in real money. They are therefore unnecessary and potentially very harmful, as in the cases of the Bank of Venice and the Bank of London. The roles of legal tender laws, fractional reserve banking, and regional trade fairs are described.

IT IS OF LITTLE IMPORTANCE to examine why the Bank of Venice and that of Amsterdam keep their books in moneys of account different from current [i.e., silver coin] money, and why there is always a fee for converting these book credits into currency. It is not a point of any usefulness for circulation. The Bank of London has not followed them in this regard. Its accounts, notes, and payments are made and are kept in current coins, which seem to me more uniform, more natural and no less useful.

I have not been able to obtain accurate information about the quantities of money ordinarily brought to these banks, nor the amount of their notes and accounts, loans, and sums kept as reserve. Someone who is better informed on these points will be better able to discuss them.

However, I know fairly well that these sums are not as large as commonly assumed, so I will briefly discuss the subject.

Assume that the bills and notes of the Bank of London, which seems to me the most considerable, amount to a weekly average of four million

ounces of silver, or about one million sterling. If they regularly keep a quarter or £250,000 sterling or one million ounces of silver in coins in reserve, the utility of this bank to the circulation corresponds to an increase of the money of the state of three million ounces or £750,000 sterling, which is without doubt a very large sum and of very great utility for the circulation when it needs to be accelerated. However, I have noted elsewhere [e.g., part 2, chapter 8] that there are cases where it is better for the welfare of the state to slow down the circulation rather than to accelerate it. I have heard that the notes and bills of the Bank of London have risen in some cases to two millions sterling, but it seems to me this can only have been by extraordinary accident. And I think the utility of this bank corresponds in general to only about one-tenth of all the money in circulation in England.

If the general explanations I received in 1719 about the revenues of the Bank of Venice are correct, it may be said that the utility of national banks generally does not match one-tenth of the money circulating in a state. This is more or less what I've learned.

The revenues of the state in Venice may amount annually to four million ounces of silver, which must be paid in banknotes, and the collectors hired for that purpose, who receive money at Bergamo and in the most distant places for taxes, have to change it into banknotes when they make the payments to the republic.

In Venice, all payments for contracts—purchases and sales above a certain modest sum—must, by law, be made in banknotes. Therefore, all the retailers who have collected money in their business are compelled to buy banknotes to make large payments. Those who need money for their expenses or retail purchases have to sell their banknotes for money.

The sellers and buyers of banknotes are usually equal when the total of all the credits or accounts on the bank's books do not exceed the value of approximately 800,000 ounces of silver.

Time and experience (according to my informant) provided this knowledge to the Venetians. When the bank was first set up, individuals brought their money there to have credit at the bank for the same value. The money that was deposited at the bank was later spent on the needs of the republic [i.e., the government] and yet, banknotes preserved their original value because there were as many people needing to buy them as those needing to sell them. Finally, the state, in need of money, gave

credits to war contractors in banknotes instead of silver, doubling the amount of its credits.

Then with the number of sellers of banknotes being much greater than number of buyers, the notes began to lose value and fell 20 percent against silver. By this discredit, the revenue of the republic fell by one-fifth and the only remedy found for this chaos was to pledge part of the state's revenues to borrow banknotes at interest. With these loans of banknotes half of them were cancelled and then with the sellers and buyers being about equal, the bank regained its original credit and the total of banknotes was brought back to 800,000 ounces of silver.

In this manner, it has been ascertained that the usefulness of the Bank of Venice, in terms of money in circulation, corresponds to about 800,000 ounces of silver. If we assume that all the money in the states of that republic amount to eight million ounces of silver, the usefulness of the bank corresponds to one-tenth of that silver.

A national bank in the capital of a great kingdom or state must, it seems, contribute less to the circulation than one in a small state because of its distance from the provinces. When money circulates in greater abundance than among its neighbors, a national bank does more harm than good. An abundance of fictitious and imaginary money causes the same disadvantages as an increase of real money in circulation, by raising the price of land and labor, or by changing the value of money and goods only to cause subsequent losses. This furtive or unnatural abundance vanishes at the first gust of scandal and precipitates economic chaos.

Toward the middle of the reign of Louis XIV [1638-1715], there was more money in circulation in France than in neighboring countries, and the king's revenue was collected without the help of a bank, as easily and conveniently as it is collected today in England with the help of the Bank of London.

If exchanges in Lyons during one of its four trading fairs amounted to 80 millions of livres, and if they are begun and finished with one million in cash money, they are certainly of great convenience. Because everyone is in the same location, an infinite number of transactions can take place and it saves the expense of transporting silver from one place to the other. Normally, it might take three months for this same million of cash to conduct 80 million in payments.

The Paris bankers have often observed that the same bag of money has come back to them four or five times in the same day when they had a good deal to pay out and receive.

I think that public banks are useful in small states and in those where silver is rather scarce, but of little utility in giving a solid advantage to a large state.

The emperor Tiberius, a strict and economical leader, saved 2.7 billion sesterces, equal to 25 million sterling or 100 million ounces of silver in the imperial treasury. This was an enormous sum for those times and even for today. It is true that in tying up so much money, he disturbed the circulation and silver became scarcer in Rome than it had ever been.

Tiberius, who attributed this scarcity to the monopoly of contractors and financiers who farmed the empire's revenues [i.e., private tax collectors], ordered by an edict that they should buy land with at least two-thirds of their capital. Instead of stimulating the circulation of money, his edict threw it completely into chaos. All the financiers hoarded and called in their capital under the pretext of putting themselves into a position to obey the edict by buying land, which, instead of rising in value, sunk to a much lower price owing to the scarcity of silver in circulation. Tiberius remedied this scarcity by lending to individuals on good security, but only 300 million sesterces, or one-ninth of the money he had in his treasury.

If the ninth part of the treasury sufficed in Rome to re-establish the circulation, it would seem that the establishment of a general bank in a great kingdom where its utility would never correspond to one-tenth of the money in circulation, when it is not hoarded, would be of no real and permanent advantage, and when considered for its intrinsic value, it can only be regarded as a mean for saving time.

However, a real increase in the quantity of circulating money is of a different nature. We have covered this before [in part 2, chapter 6] and Tiberius' treasury gives us another opportunity to touch the subject. This treasure of 2.7 billion of sesterces, left at the death of Tiberius, was squandered by his successor, emperor Caligula, in less than a year. Money was never seen so abundant in Rome. What was the result? All this money plunged the Romans into luxury and into all sorts of crimes to pay for it. More than 600,000 pounds sterling left the empire every year to buy

merchandise from the Indies, and in less than 30 years, the empire grew poor and silver became very scarce, without the loss of a single province.

Though I consider that a general bank is not of great utility in a large state, I allow that there are circumstances in which a bank may have effects that seem astonishing.

In a city where there are public debts for considerable amounts, the presence of a bank enables one to buy and sell capital stock in an instant, and for enormous sums, without causing any disturbance in the circulation. In London, if a person sells his South Sea stock to buy stock in the bank[152] or in the East India Company, or hoping that in a short time he will be able to buy at a lower price stock in the same South Sea Company, he always takes banknotes, and will generally not ask for money in exchange for these notes, except for the value of the interest. Capital is hardly ever spent so there is no need to change it into coins, but one does need to ask the bank for money to live on because cash is needed for small transactions.

If a property owner who has 1,000 ounces of silver pays 200 ounces for the ownership of public stock to earn interest and spends 800 ounces for himself, the thousand ounces will always require coins. This owner will spend 800 ounces and the owners of the stocks will spend 200 of them. But when these owners are in the habit of speculating—buying and selling public stocks—no silver is needed for these operations and banknotes suffice. If it were necessary to draw cash out of circulation to be used in these purchases and sales, it would amount to a great sum and would often impede the circulation, and if this were the case, stocks could not be sold and bought so often.

The origin of this capital is money that is deposited in the bank and is rarely drawn out, such as when an owner of capital engages in transactions and needs cash. This explains why the bank keeps in reserve only one-fourth or one-sixth of the silver against which it issues notes. If the bank did not have the funds of this type of capital, it would, in the ordinary course of circulation, find itself compelled, like private banks, to keep half its deposits on hand to be solvent. It is true that we cannot determine from the bank books and from its operations the quantity of capital that passes

[152] He is referring to the Bank of London, now the Bank of England.

through several hands in the sales and purchases made in Change Alley. These notes are often renewed at the bank and changed against others in purchases. But the experience of stock purchases and sales clearly shows that the quantity is considerable, and without these purchases and sales, the sums deposited at the bank would likely be smaller.

This means that when a state is not in debt, and has no need of purchases and sales of stock, the assistance of a bank will be less necessary and less important.

In 1720, the shares of public stock in private companies in London, which were bubbles and scams, rose to the value of 800 million sterling. Yet, purchases and sales of such venomous stocks were carried out without difficulty by the quantity of notes of all kinds that were issued and the same paper money was accepted in payment of interest. However, as soon as the idea of great fortunes induced many individuals to increase their expenses, to buy carriages or foreign linen and silk, cash was needed for all that, i.e. for the spending of interest, and this broke all the systems up in pieces.

This example shows that the paper and credit of public and private banks may cause surprising results in everything which does not concern ordinary expenditure for drink, food, clothing, and other family requirements. In the regular course of the circulation, the help of banks and credit of this kind is much smaller and less solid than is generally assumed. Silver alone is the true lifeblood of circulation [i.e., the economy].

# Chapter Eight

## The Refinements of Credit of General Banks

**Abstract:** When the government's national bank inflates the money supply by increasing the supply of banknotes, it reduces the rate of interest and can increase the price of stocks. This is a corrupt process and when the notes are redeemed, the price of stocks falls and can result in bank runs and economic chaos. This is now known as the business cycle.

THE NATIONAL BANK OF LONDON is composed of a large number of shareholders who elect a board of directors to govern its operations. Their main task consisted in making a yearly distribution of the profits from interest on the money lent against the bank deposits. Later, the public debt was incorporated with it, on which the State pays interest annually.

In spite of such a solid foundation, once the bank had made large advances to the State and the holders of notes were apprehensive that the bank was in difficulties, a run on the bank took place and holders of notes went in crowds to withdraw money. The same thing happened during the collapse of the South Sea Company in 1720.

The refinements introduced to support the bank and limit its discredit were first to set up a number of clerks to count out the money to those bringing in notes, to pay out large amounts in sixpences and shillings to gain time,[153] and to pay some portion to individual holders who had been

[153] The bank was essentially redeeming its notes with small change in order to delay and discourage redemption.

waiting all day to be paid. However, the most considerable sums were paid to friends who took them away and secretly brought them back to the bank only to repeat the same maneuver the next day. In this way, the bank saved its appearance and gained time until the panic abated. But when this did not suffice, the bank opened a stock subscription, engaging trusty and solvent people to join as guarantors of large amounts, in order to maintain the credit and circulation of the bank notes.

It was by this last refinement that the credit of the bank was maintained in 1720 when the South Sea Company collapsed. As soon as it was publicly known that wealthy and powerful people were on the subscription list, the run on the bank ceased and deposits were brought in as usual.

If a Minister of State in England,[154] seeking to lower the interest rate, or for other reasons, increases the price of public stock in London, and if he has enough credit with the directors of the bank to get them to issue a quantity of banknotes without backing (under the obligation of indemnifying them in case of loss), begging them to use these notes to buy several blocks of shares of public stock, this stock's price will increase due to these operations. And those who have sold stock, seeing that high prices continue, will perhaps decide to buy it back at a higher price than they sold it for, so as not to leave their banknotes idle and believing rumors that the interest rate will fall and that the stock's price will rise further. If several people imitate the agents of the banks and buy this stock, hoping to profit like them, the public funds will increase in price to the point that the minister wishes. And it may be that the bank will cleverly resell at a higher price all the stock purchased at the minister's request, and will not only make a large profit on it, but will retire and cancel all the extraordinary banknotes that were issued.

If the bank alone makes the price of public stock rise by buying it, it will make it fall when it sells it in order to cancel its extraordinary notes. However, many individuals usually follow the agents of the bank in their operations and contribute in keeping the price high. Some of them get caught because they do not understand these operations, in which are found infinite refinements or rather trickery, which lie outside my subject.

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[154] Cantillon is probably referring to Robert Walpole, who was in the English cabinet at the time and who would become, in the wake of the scandal, the First Lord of the Treasury, Chancellor of the Exchequer and Leader of the House of Commons. He was the first "Prime Minister" of England.

It is then evident that a bank, with the complicity of a public administrator, is able to raise and support the price of public stock, and to lower the rate of interest in the state at the pleasure of this administrator. When the steps are taken discreetly, it can pay off the state's debt. But these refinements, which open the door to making large fortunes, are rarely carried out for the sole advantage of the state, and those who take part in them are generally corrupted. The excess banknotes, made and issued on these occasions, do not upset the circulation because they are used for the buying and selling of stock. They are not used for household expenses and are not exchanged into silver. But if some panic or unforeseen crisis drove note holders to demand silver from the bank, the bomb would burst and it would be seen that these are dangerous operations.

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Following a century of neglect, William Stanley Jevons, in the first blush of discovery, proclaimed Cantillon's *Essai*, "the cradle of political economy." Subsequent growth and development of economic thought has not really alerted us to the subtleties of this succinct appraisal. A cradle holds new life; and there can be little doubt that the *Essai* added new life to the organizing principles of economics. But "political economy" does not accurately describe the subject Cantillon addressed. Indeed, he scrupulously avoided political issues in order to concentrate on the mechanics of eighteenth-century economic life.

—Robert F. Hébert, from the Foreword

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ISBN 978-1-61016-001-8
90000 >
9 781610 160018
SKU SS548